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ABSTRACT

The National School-to-Work Office in collaboration with the National Association for Gifted Children, the Council for Exceptional Children, the Association for the Gifted, and the Council of State Directors of Programs for the Gifted have identified 11 gifted education/school-to-work (GT/STW) models that are either best practices or unique approaches. This information packet provides an overview of one of the unique approaches models: "Focusing on the Future: A Career and Academic Learning Experience for Gifted Students in Grades 6-12 and Their Parents." Developed by the Center for Gifted Education at the College of William and Mary, this program offers all-day career and academic planning activities to secondary gifted students. The students are given opportunities to interact with professionals in varied fields and parents are informed about career-oriented academic planning. Student career workshops in the humanities and social sciences, art, mathematics, science, and technology are led by college faculty or professionals. Parent sessions include topics such as developing children's critical thinking skills, encouraging girls in math and science, and the social and emotional needs of gifted students. The information packet includes a program overview, agendas for the different sessions, session materials, registration forms, a videotape, and relevant articles. (CR)

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EC 308137

Gifted Education/School-to-Work Models: Best Practices and Unique Approaches

The National School-to-Work Office has been collaborating with the National Association for Gifted Children, The Council for Exceptional Children, The Association for the Gifted, and the Council of State Directors of Programs for the Gifted on a national effort to identify exemplary Gifted Education/School-to-Work (STW) models. Our purpose has been to forge new relationships between the STW and gifted education communities around common and critical goals: teaching rigorous and relevant academic skills, identifying and developing talent, and guiding career development. We believe sharing these practices will expand learning opportunities for all learners by building an even richer and more inclusive STW system, and by "raising the bar" on learning and teaching for all students.

We use the term "gifted and talented," which is broader than "academically talented" (used in the School-to-Work Opportunities Act), because state definitions of giftedness mostly use some variation of the current federal definition, which is (1988 Jacob K. Javits Gifted and Talented Students Education Act):

> *Children and youth who give evidence of high performance capability in areas such as intellectual, creative, artistic or leadership capacity, or in specific academic fields, and who require services or activities not ordinarily provided by the school in order to fully develop such capabilities.*

Last year, letters were sent to state-level STW and gifted education directors and association leaders to help identify gifted education models that also exemplify STW. Submissions were also requested on all gifted education Listservs. We received 23 competitive submissions.

A technical review process was used to ensure that all submissions were thoroughly and impartially evaluated. An outside review panel was assembled which comprised experts in gifted education and STW. Their experience included state gifted education and STW leadership, local STW program evaluation, and post-secondary gifted education research. All submissions were evaluated according to criteria consistent with guidelines made available to all applicants.

Five **Best Practices** and six **Unique Approaches** were selected by the panel. The designation "Best Gifted Education/STW Practice" signifies excellent progress in implementing a comprehensive STW system that challenges high achieving/gifted and talented students. The designation "Unique Gifted Education/STW Approach" recognizes a unique program element. Unique Approaches did not present all key components of a comprehensive STW system (school-based, work-based, and connecting activities), or provide sufficient information about how gifted and talented students are served.

Programs evaluated as very strong:

- specifically serve gifted and talented students;

• demonstrate a school-based learning component that supports and builds on a work-based learning component, and provide students with high level academic and technical skills and opportunities for career exploration and guidance;

• demonstrate a work-based learning component connected to academic classroom learning, and prepare students for the diverse skills needed in today's high-performance workplaces;

• present connecting activities that build and maintain linkages between students, educators, the workplace, parents, and others in the community;

• provide evidence about effectiveness, including indicators that it could be replicated in diverse settings throughout the country; and

• address identified priorities such as strategies to: improve math and science achievement, serve gifted students in rural and urban areas, enhance middle school achievement, and promote linkages with institutions of higher learning.

A brief description of one of the 6 **Unique Approaches** follows:

FOCUSING ON THE FUTURE: A CAREER AND ACADEMIC PLANNING EXPERIENCE FOR GIFTED STUDENTS IN GRADES 6-12 AND THEIR PARENTS (VIRGINIA): *Unique Approaches: Parent Involvement and Program Evaluation.* Developed by the Center for Gifted Education at Virginia's College of William and Mary, these all-day career and academic planning activities offer middle and high-school gifted students opportunities to interact with professionals in varied fields, and inform parents about career-oriented academic planning for their children. Student career workshops in the humanities and social sciences, arts, mathematics, science, and technology are led by college faculty or professionals from such institutions as Colonial Williamsburg, the Medical College of Virginia, NASA, Richmond Ballet, and National Public Radio. Parent sessions include topics such as developing children's critical thinking skills, encouraging girls in math and science, and the social and emotional needs of gifted students.

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April 30, 1998

Dr. Lorraine Kleinwaks
National School-to-Work Office
400 Virginia Avenue, SW
Suite 210
Washington, DC 20024

Dear Dr. Kleinwaks:

We hope that all is going well for you. We are sure that this is an exciting time in the National School-to-Work Office as you receive proposals for the *Gifted Education School-to-Work Symposium Project*! Enclosed you will find the proposal submitted by the Center for Gifted Education at the College of William and Mary. It was wonderful to have a forum to inform others about what has been accomplished with *Focusing on the Future*. Please feel free to contact us if you have questions or need additional information.

Thank you for the opportunity to present a proposal to this worthy endeavor. We look forward to hearing from you in the near future!

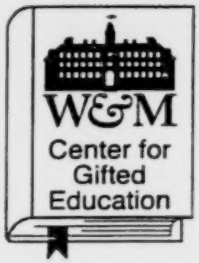
Sincerely,

Joyce VanTassel-Baska, Ed. D.
Director of the Center for Gifted Education
Jody Layton Smith Professor of Education

Valerie H. Moye

Valerie H. Moye, Ed. S.
Coordinator of Special Projects

Enclosure



Proposal for The Gifted Education School to Work Symposium Project

Submitted by:
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Program Vision Goals, and Overview

Guiding Vision

The guiding vision for *Focusing on the Future: A Career and Academic Planning Experience for Gifted Students in Grades 6-12 and Their Parents* was one in which the future finds gifted adults in professions that are meaningful and well-suited to their aspirations and abilities. The program was based on the premise that knowledge is power and career possibilities can be inspirational--if one knows of the many, varied ways one can merge his or her interests and abilities with professional endeavors. However, often students take career pathways, not because they are inspired by them but because they know so little about career possibilities and the factors that lead to the attainment and performance in them. *Focusing on the Future: A Career and Academic Planning Experience for Gifted Students in Grades 6-12 and Their Parents* was created with the intent to provide middle and high-school gifted students with initial experiences that will *expand* and *focus* their horizons. That is, once they become aware of careers that interest them, they can focus on attaining additional information about particular careers through possible follow-upmentorships or internships.

Program Goals

The Center for Gifted Education at the College of William and Mary offers an all-day career and academic planning program for gifted students in grades 6-12 and their parents. *Focusing on the Future: A Career and Academic Planning Experience for Gifted Students in Grades 6-12 and Their Parents* was initiated with three purposes in mind: (1) to provide opportunities for gifted students to explore possible careers of interest, (2) to establish opportunities for gifted students to interact with professionals in varied fields, and (3) to inform parents of considerations and guidelines for academic planning which will support future career choices.

Program Overview

Program History and Format

Focusing on the Future: A Career and Academic Planning Experience for Gifted Students in Grades 6-12 and Their Parents was initiated during the 1997-98 academic school year and has experienced two successful years of implementation (See evaluation summaries in Appendices F & G). During the first year, the program was offered on three different Saturdays. Each of the Saturday programs differed according to three distinct career foci: (1) the humanities and the social sciences, (2) the arts, and (3) mathematics, science, and technology (see programs in Appendix C). Each Saturday program featured a keynote address, concurrent student workshops about various career opportunities in the featured career strand, concurrent parent workshops about academic planning considerations, and a panel discussion which pertained to the particular career focus of the day. All career programs were held from 9:00 a.m. to 3:15 p.m., at the University Center on the College of William and Mary campus.

The second year of implementation was based upon the success of the first year and feedback received from presenters and participants. The three Saturday programs with different career cluster foci were replaced by one Saturday program that offered workshops in four distinct strands: (1) humanities and the social sciences career workshops, (2) arts career workshops, (3) mathematics, science, and technology career workshops, and (4) career and academic planning workshops for parents (See program in Appendix C). In response to parent and student suggestions from Year 1, we removed the general keynote address from the program, added a third concurrent workshop session, and arranged for a tour of the William and Mary campus on a sign-up basis. The arrangement of the program in this way afforded students the opportunity to attend at least one workshop in each of the three career focus strands in a single-day program.

Each of the student workshops was lead by either a member of the faculty at the College of William and Mary or by a practicing professional in the community. During

each of the student workshops, presenters were asked to expose students to (1) an activity that pertained to the concentration area, (2) information about work habits and "habits of mind" that lead to successful careers, (3) information about career opportunities in their field, and (4) steps that students might take in preparing for careers in their profession.

Parent workshops were facilitated by Center for Gifted Education faculty and staff members at the College of William and Mary or special experts in aspects of college and academic planning. Parent workshop presenters were asked to highlight information that would be particularly helpful to parents in guiding students' career and academic planning pursuits.

Program evaluations indicate that changes made to the second year program further enhanced what was initiated during the first year (See program evaluation summary in Appendix G). Current plans are to continue the second year program format for the third year of implementation.

Program Announcement and Registration

Students and their parents became aware of the program through several sources. First, an announcement and registration form was mailed to all gifted program coordinators in the Commonwealth of Virginia. The coordinators then had the responsibility of informing gifted middle school and high school students in their school districts of the career and academic planning opportunity. Information also was sent directly to parents of middle school and high school students who attend any of several programs offered by the Center for Gifted Education. Finally, announcements were made in several newspapers distributed in Virginia.

The registration process allowed students to indicate their first, second, and third choices among nine possible workshops for each of the three concurrent sessions. Parents were given three choices for each of the three sessions. First choices were honored most of the time and second choices were honored if a first choice workshop was filled.

Research on Talent Development

In recent years the search for a better understanding of giftedness and talent has yielded an emphasis on talent development, the process by which students develop skills for work in societally valued endeavors. In large part this trend toward talent development has evolved from studies of eminent individuals from all domains (Bloom, 1985; Goertzel & Goertzel, 1962; VanTassel-Baska, 1995). These retrospective studies have increased our understanding of the talent development process (Bloom, 1985) and have revealed common life themes or patterns among the eminent; moreover, the patterns which have emerged suggest practices that are effective in talent development.

The studies of eminent individuals have demonstrated that the development of any talent is a complex process which is influenced by many factors (Bloom, 1985; Feldman, 1986; Kulieke & Olszewski-Kubilius, 1989; Tannenbaum, 1983). Certainly the research suggests the powerful influence that families have on talent development; however, studies also reveal that surrogate influence from siblings, grandparents, adults in the community, teachers, and others also may serve as a primary influence, especially when family situations are less than optimal (Goertzel & Goertzel, 1962; Van Tassel-Baska, 1989; VanTassel-Baska & Olszewski-Kubilius, 1989). Indeed, research indicates that many eminent individuals were influenced by the presence of the right teacher at the right time in their lives and the provision of opportunity to fall in love with what became a talent focus (Bloom, 1985). Feldman (1986) further expanded the circle of influence by finding that early exposure to a socially accepted field has been a contributing factor to talent development. Pleiss & Feldhusen (1995) reviewed the research on heroes and mentors finding that in science, mentors appear to be critical for talent development whereas, in other fields it may be less so.

But schools alone cannot bear the total responsibility for providing students with the information for making effective career choices. This responsibility must be shared by tthe larger community who possess the knowledge, the resources, and the commitment to

encourage talented students to pursue a professional vocation that will enhance their sense of worthiness and purpose. University and business partnerships such as those created to implement *Focusing on the Future* can provide a viable source for able middle school and high school students who will embark on career pathways in the near future.

Partnerships

As a university, the College of William & Mary has the capacity to provide partnership experiences. At this point, however, Focusing on the Future aims at building awareness of what resources are available when students are on the path to discovering their optimal careers. It provides students with contacts that could lead to partnerships, if pursued by individual participants. Through the workshop sessions, students have the chance to interact with university professors and professionals in a wide variety of disciplines.

Specific partnerships that have already been forged in the community as a result of Focusing on the Future include the following: Colonial Williamsburg, the Medical College of Virginia, Eastern Virginia Medical College, NASA, the Richmond Ballet, the Virginia Department of Education, National Public Radio, and WWBT--the NBC-TV affiliate in the area. We have also enjoyed great success in collaborating with specific schools and departments at the College of William & Mary. Successful partnerships have been developed with the School of Education, the College of Arts and Sciences, the School of Business Administration, the Marshall-Wythe School of Law, the Reves Center for International Studies, and the Virginia Institute of Marine Science. Departments represented by these partnerships include the following: Anthropology, Government, History, Theater, Vocal Music, Biology, Computer Science, Instrumental Music, and Mathematics.

Connecting Activities

Focusing on the Future has encouraged linkages between students, parents, William and Mary faculty and staff, and members of the larger community. The nature of the program requires members of the faculty and professionals to work towards a common goal of providing high-ability middle and high school students with an opportunity to examine varied careers and pathways to those careers. The Center for Gifted Education has worked closely with the school districts and private schools throughout the Commonwealth of Virginia in developing and implementing the program *Focusing on the Future.* Information concerning the program is disseminated to school district superintendents, gifted program coordinators, guidance counselors, and headmasters of private schools; thus, these individuals not only become aware of the program, they take ownership for the program by informing students and parents of the opportunity (See announcements and registration forms in Appendix A). This strategy has encouraged school districts to expand what has been offered by *Focusing on the Future* to students in their districts and staff at the Center for Gifted Education has been invited to consult with local districts toward this endeavor. The Center for Gifted Education also has facilitated a linkage between *Focusing on the* Future and school districts by hosting a meeting during which area gifted program coordinators are provided a forum for providing feedback and suggestions concerning the program. connection between consider the development of their owna vital role in communicating the opportunity to middle and high school students and these individuals have been a primary source of communication about the program

Integrated Curriculum

The content of the sessions offered in Focusing on the Future integrates with real-world problem solving in many ways. Fundamentally, each session aims at providing participants with a closer look at a particular area of career interest. By linking students' interests with potential outlets in the real world, Focusing on the Future allows participants to gain a clearer perspective on various opportunities and goals. It also encourages them to formulate

questions and pursue avenues that will guide the direction of further inquiry. In other words, Focusing on the Future stimulates participants to 1) recognize and identify significant issues pertaining to career choice, 2) plan steps to take that will address both short- and long-term career goals, and 3) anticipate obstacles and challenges that they may confront as they enter the real world of work.

During each workshop session, speakers (university professors and other professionals) focus on their specific fields of expertise. Students are exposed to 1) an activity that pertains to the concentration area, 2) information about work habits and "habits of mind" that lead to successful careers, 3) information about career opportunities in a specific field, and 4) steps that students will need to take in preparing for careers in that field. Workshop sessions cover a broad range of student offerings. These include the following career areas: Anthropology, Architecture, Biology, Business, Chemistry, Computer Science, Dance, Education, Engineering, English, Film-making, Geology, Government, History, Instrumental Music, International Studies, Law, Marine Science, Mass Communications, Mathematics, Physics, Psychiatry, Theater, and Vocal Music.

Parent Involvement

The development and support of collaborative partnerships among students, teachers, schools, parents, and communities is a key feature of this program. Epstein (1995) has noted that there are numerous reasons for developing school, family, community partnerships. She suggested that, among other reasons, "they can improve school programs and school limate, privde family services and support, and...connect families with others in the school and in the community" (p. 701). Such involvement has a positive effect on students by providing appropriate modeling, reinforcement, and direct instruciton within the holistic context of the family, school, and community. Hoover-Dempsey and Sandler (1995) have suggest that parents choose to become involved in thier children's education for three reasons: "(1) their personal construction of the parental role; (2) their personal sense of efficacy for helping children succeed in school; and (3) their reaction to

the opportunities and demand characteristics presented by both their children and their children's schools" (p. 313). Moreover, parental involvement has been encouraged in numerous national reports on reform and excellence from *Turning Points*, (Carnegie Report, 1984), *Goals 2000* (U.S. Department of Education, 1991), and *National Excellence: A Case for Developing America's Talent* (U.S. Department of Education, 1993) to the recent NMSA position paper, *This We Believe* (National Middle School Association, 1995).

Parents of students attending the first career workshop series were surveyed several months after the event was held to determine their perception of need for such workshops. The findings are based on responses from 12 parents which, although few in number, provide some insight into the career and academic planning needs of gifted students and their paretns. In Section I of the parent survey, parents were asked about their own careers and the influences and decision-making process that led to their choices. All of those holding full-time jobs outside of the home (80%) had had their children visit their worksite. All of the jobs held were also at a professional level. In all cases, children shared one or more interest/hobby with a parent. Regarding influences on their own career choice, parents pointed to "areas of intense interest"(80%), "parents" (60%), "teachers" (40%), and "summer jobs" (10%). They also said that it would have been helpful to have had information/opportunities in the following areas: "greater awareness of career possibilities" (80%), "clearer guidance in choosing courses" (60%), "opportunities for mentorships/internships" (60%), and "volunteer work" (60%). Sixty percent were willing to volunteer as informational contacts in their particular career fields.

In Section II, parents were asked to reflect on last year's career workshop. Twenty-two percent mentioned the helpfulness of including professionals in various fields discussing careers in the Arts, and 11% mentioned that it had been improtant to learn that people in the Arts must be willing to do many different jobs. Eleven percent noted the high level of development of humanities, and 33% pointed to the usefulness of the session on selecting and planning for college. Twnenty percent wanted more choice in parent sessions,

and 40% wanted more choice for students. All parents had a continued or increased interest in finding out about the College of William and Mary.

Finally, parents shared their needs/interests for upcoming career workshops in Section III. Forty-four percent were unaware of any school/community resources providing guidance on career development. Forty percent said there were very few resources. They mentioned basic college and career nights, but said there was nothing relating particular academic fields to careers as specifically as the William & Mary career workshops. Twenty percent mentioned community art classes as useful in career guidance, and 11% mentioned the usefulness of personal contacts in the community. Twenty percent shared a concern that their child enjoy his/her job and also be able to make a living at it.

Areas in which parents felt their children most needed career information were varied and included fields from the arts, humanities/xocial sciences, and math/science strands. Forty-four percent expressed an interest in art and writing; 33% in architecture and psychology; 22% in English, journalism, ecology/natural resources, geology, teaching, business/economics, theater, medicine, foreign language, and international affairs; and 11% in photography, biology, engineering, communications, and film. In terms of information and training needs for their children, parents gave the following ratings: 44% in academic planning, choosing a college, and internships/mentorships; 33% in work/study options and William & Mary; and 22% in international opporutnities, research opportunities, and resume/interview skills.

Parents rated their own information and training needs as follows: 55% in choosing a college; 44% in academic planning; 33% in encouraging girls in math/science; 22% in financial planning for college, internships/mentorships, international opporunities, and helping your child develop critical thinking and intelligent tactics; and 11% in research opportunities, William & Mary, social and emotional needs of the gifted, and computer science. Additional comments/questions included the following: 1) "What sorts of information should we be compiling for his college application, strating with freshman year

or earlier?" 2) "Is there a 'hidden curriculum' to colleges? What sort of campus life can a student expect at different colleges?" 3) "How do we find out which extracurricular gifted activities are worthwhile to consider and find out the process to access them?" and 4) "A test-taking inventory to help students identify what they're good at would be useful."

The data from the parent needs assessment confirmed many of the ideas already incorporated into the workshop model. Areas for future expansion of the career workshop, based on parent responses, could include opportunities for the administration of ability inventories, and increased information on and access to networks of professionals and opporutnities involving mentorships, research, and extracurricular programs. Personal attention and the encouragement of interactions between students and professionals in a wide variety of careers should be an ongoing objective.

Career and Academic Planning

Focusing on the Future is a career and acadmic planning endeavor for gifted students in grades 6 through 12 and their parents. It is designed to make students and their parents aware of the many facets of career planning and the varied considerations involved in selecting, attaining, and performing careers that are fulfilling. This program is designed to complement an array of many career development options that should be afforded to high-ability students. *Focusing on the Future* is offered to pique interest, foster contemplation, and offer opportunities for making initial connections concerning career planning; such interests, contempllations, and connections should be nurture by additional options such as mentorships and internships

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Appendix A

Announcements and Registration Forms

Sample Gifted Program Coordinator Letter

December 3, 1996

Dear Gifted Program Coordinator:

The Center for Gifted Education, at the College of William & Mary, is hosting a series of career and academic planning programs for gifted students in grades 6-12 and their parents. The purposes of the series are (1) to expose gifted students to career opportunities in the humanities social sciences, arts, mathematics, and sciences, and (2) to inform students' parents of considerations and guidelines for effective academic planning.

A total of three programs will be offered on three different Saturdays during the 1996-97 school year. The programs will differ according to three distinct career foci: (1) the humanities and social sciences, (2) the arts, and (3) mathematics and the sciences. Each workshop will feature a keynote address, concurrent ***student*** sessions about career opportunities, concurrent ***parent*** sessions about academic planning considerations, and a panel discussion which pertains to the particular career focus for the day. All workshops will be held at the University Center at the College of William & Mary, from 9:00 a.m. to 3:15 p.m. Each workshop will cost $30 per participant. Students must be accompanied by a parent or guardian.

Enclosed is an announcement of the first program which will focus on the humanities and social sciences. This session will be held on Saturday, January 18, 1996. We would appreciate your assistance by distributing copies of the enclosed information to parents of gifted students in grades 6-12. **Please note that the registration deadline is January 6, 1997.**

We also wanted to inform you that a program featuring the arts will be held on Saturday, March 8,1997, and a mathematics and science career session will be held on Saturday, May 3, 1997. Information and registration forms for these sessions will be sent at a later date in separate mailings.

We are enthusiastic about this initiative and its potential for positive influence. It is important to make bright students aware of career possibilities that reflect their interests and talents. Your assistance will be valuable in this endeavor. In advance, we thank you for your support. If you have any additional questions, please feel free to contact Valerie Moye at (757) 221-2587.

Sincerely,

Joyce VanTassel-Baska
Smith Professor of Education
Director, Center for Gifted Education

Valerie Moye
Project Coordinator

Enclosure

Sample Guidance Letter

March 21, 1997

Dear Guidance Counselor:

In an earlier mailing, the Center for Gifted Education at the College of William & Mary announced that it is hosting a series of career and academic planning programs for gifted students in grades 6-12 and their parents. The purposes of the series are (1) to expose gifted students to career opportunities in the humanities, social sciences, arts, mathematics, and sciences, and (2) to inform students' parents of considerations and guidelines for effective academic planning.

As you know, a total of three programs have been planned for three different Saturdays during the 1996-97 school year. The programs differ according to three distinct career foci: (1) the humanities and social sciences, (2) the arts, and (3) mathematics and the sciences. Each workshop will feature a keynote address, concurrent ***student*** sessions about career opportunities, concurrent ***parent*** sessions about academic planning considerations, and a panel discussion which pertains to the particular career focus for the day. All workshops will be held at the University Center at the College of William & Mary, from 9:00 a.m. to 3:15 p.m. Each workshop will cost $30 per participant. Students must be accompanied by a parent or guardian.

Enclosed is an announcement of the third program, which will focus on Science and Mathematics. This session will be held on Saturday, May 3, 1997. We would appreciate your assistance in distributing copies of the enclosed information to parents of gifted students in grades 6-12. **Please note that the registration deadline is April 18, 1997.**

We are enthusiastic about this initiative and its potential for positive influence. It is important to make bright students aware of career possibilities that reflect their interests and talents. Your assistance will be valuable in this endeavor. In advance, we thank you for your support. If you have any additional questions, please feel free to contact Valerie Moye at (757) 221-2587.

Sincerely,

Joyce VanTassel-Baska
Smith Professor of Education
Director, Center for Gifted Education

Valerie Moye
Project Coordinator

Enclosure

Sample Administrator or Principal Letter

December 3, 1996

Dear Administrator:

The Center for Gifted Education, at the College of William & Mary, is hosting a series of career and academic planning programs for gifted students in grades 6 through 12. The purpose of the workshop series is to (1) expose gifted students to career opportunities in the humanities and social sciences, the arts, and mathematics and sciences, and (2) inform students' parents of considerations and guidelines for effective academic planning.

A total of three workshops will be offered on three different Saturdays during the 1996-97 school year. The programs will differ according to three distinct career foci: 1) the humanities and social sciences, 2) the arts, and 3) mathematics and the sciences. Each workshop will feature a keynote address, concurrent ***student*** sessions about career opportunities, concurrent ***parent*** sessions about academic planning considerations, and a panel discussion which pertains to the particular career focus for the day. All workshops will be held at the University Center at the College of William and Mary, from 9:00 a.m. to 3:15 p.m. Each workshop will cost $30 per participant. The fee includes a box lunch and written materials.

Enclosed is an announcement of the first program which willl focus on the humanities and social sciences. This session will be held on Saturday, January 18, 1996. We would appreciate your assistance by distributing copies of this information to parents of gifted students in grades 6-12.

Please note that the workshop featuring the arts will be held on Saturday, March 8 and the mathematics and science career session will be held on Saturday, May 3, 1997. Information and registration forms for these sessions will be sent at a later date in separate mailings.

We are enthusiastic about this initiative and its potential for positive influence. It is important to make bright students aware of career possibilities that reflect their interests and talents. Your assistance will be valuable in this endeavor and we want to thank you in advance for your support. If you have any additional questions, please feel free to contact Valerie Moye at (757) 221-2587.

Sincerely,

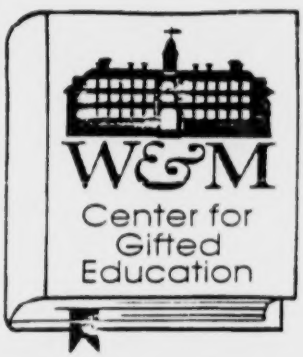
Joyce VanTassel-Baska
Smith Professor of Education
Director, Center for Gifted Education

Valerie Moye
Project Coordinator

Enclosures

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN THE ARTS

A Career and Academic Planning Experience for Gifted Students in Grades 6-12 and Their Parents



Saturday, March 8, 1997
9:00 a.m. to 3:15 p.m.

The University Center
The College of William & Mary
Williamsburg, Virginia

Sponsored by
The Center for Gifted Education

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN THE ARTS

The Center for Gifted Education at the College of William & Mary is offering an all-day career and academic planning program for gifted students in grades 6-12 and their families. This is the second of a series of programs that feature different career clusters. The purposes of these career programs are to provide opportunities for gifted students to explore possible careers of interest and for parents to gain knowledge in guiding their children's future education. All program presenters will be faculty at the College of William and Mary or practicing professionals in particular fields.

PROPOSED PROGRAM

9:00 - 9:15 **Welcome and Introductory Remarks**

9:00 - 9:30 **Overview of the Day and Introduction of Speaker**

9:30 - 10:15 **Keynote Address**

10:15 - 10:30 **Break**

10:30 - 11:45 **Concurrent Sessions for Students and Parents**

Student Topics ***(Each student may attend one in the morning and one in the afternoon.)***

Students will have the opportunity to learn about two of the following career areas. They will be exposed to an activity that pertains to the concentration area, the primary "habits of mind" that careers in the concentration employ, and career opportunities related to the concentration.

- Careers in Architecture
- Careers Related to Art
- Careers in Dance
- Careers in Music
- Careers in Theatre
- Museum Careers
- Photo Journalism
- Scriptwriting as a Career

Parent Topics ***(Each parent may attend one in the morning and one in the afternoon.)***

Parent sessions will focus on providing information about academic and college planning and assisting in the development of study skills.

- Social and Emotional Needs of Gifted
- Academic Planning
- Planning for College
- Helping Your Child to Develop Critical Thinking & Intelligent Tactics

11:45-12:45 **Lunch (on your own in the University Center cafeteria)**

12:45 -2:00 **Concurrent Student and Parent Sessions** (Repeated)

2:00 - 2:15 **Break**

2:15 - 3:00 **Panel Discussion of Professionals Working in the Arts**

3:00 - 3:15 **Wrap up and Evaluation**

REGISTRATION FORM

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN THE ARTS

A Career and Academic Planning Experience for Gifted Students in Grades 6-12 and Their Parents

University Center at The College of William & Mary
Williamsburg, Virginia
Saturday, March 8, 1997

Please register as soon as possible. Only 150 students and their parents can be accommodated. The registration fee for this session is $30.00 per person. Students must be accompanied by a parent or guardian. *Registration forms and fees are due by February 21, 1997.*

Student's Name:_____

Student's Grade Level (circle one): 6 7 8 9 10 11 12

Attending Parent or Guardian's Name:_____

Address:_____
Street

_____
City **State** **Zip**

Phone:_____ **School Division:**_____

***Students*: Please check the strands of the arts in which you are most interested (check as many as apply)**

_____ Architecture
_____ Art
_____ Dance
_____ Music
_____ Museum Careers
_____ Photo Journalism
_____ Scriptwriting
_____ Theatre

***Parents*: Please check the two workshop sessions you wish to attend.**

_____ Helping Your Child Develop Critical Thinking & Intelligent Tactics
_____ Social & Emotional Needs of Gifted Students
_____ Academic Planning
_____ Planning for College

Please include the registration fee for the circled number of individuals (students must be accompanied by one parent or guardian). *Make check payable to the College of William & Mary.*

Circle Number: **2** ($60.00) **3** ($90.00) **4** ($120.00)

Amount Enclosed: $_____

Return the Registration Form and Fees *BY FEBRUARY 21, 1997,* TO:

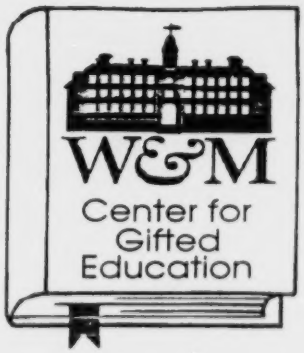
Valerie Moye
The College of William and Mary
Center for Gifted Education
232 Jamestown Road
Williamsburg, VA 23185
Phone (757) 221-2587 FAX (757) 221-2184

BEST COPY AVAILABLE

Format in Which All Announcements Were Mailed

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN SCIENCE & MATHEMATICS

A Career and Academic Planning Experience for Gifted Students in Grades 6-12 and Their Parents



Saturday, May 3, 1997
9:00 a.m. to 3:15 p.m.

The University Center
The College of William & Mary
Williamsburg, Virginia

Sponsored by
The Center for Gifted Education

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN SCIENCE AND MATHEMATICS

The Center for Gifted Education at the College of William & Mary is offering an all-day career and academic planning program for gifted students in grades 6-12 and their families. This is the third of a series of programs that feature different career clusters. The purposes of these career programs are to provide opportunities for gifted students to explore possible careers of interest and for parents to gain knowledge in guiding their children's future education. All program presenters will be faculty at the College of William and Mary or practicing professionals in particular fields.

PROPOSED PROGRAM

9:00 - 9:15 **Welcome and Introductory Remarks**

9:00 - 9:30 **Overview of the Day and Introduction of Speaker**

9:30 - 10:15 **Keynote Address**

10:15 - 10:30 **Break**

10:30 - 11:45 **Concurrent Sessions for Students and Parents**

Student Topics ***(Each student may attend one in the morning and one in the afternoon.)***

Students will have the opportunity to learn about two of the following career areas. They will be exposed to an activity that pertains to the concentration area, the primary "habits of mind" that careers in the concentration employ, and career opportunities related to the concentration.

- Careers in Biology
- Careers in Chemistry
- Careers in Computer Science
- Careers in Geology
- Careers in Mathematics
- Careers in Medicine
- Careers in Physics
- Careers in Psychiatry

Parent Topics ***(Each parent may attend one in the morning and one in the afternoon.)***

Parent sessions will focus on providing information about academic and college planning and assisting in the development of study skills.

- So Your Child is Thinking about William and Mary?
- Academic Planning
- Planning for College
- Encouraging Girls in Mathematics and Science

11:45-12:45 **Lunch (on your own in the University Center cafeteria)**

12:45 -2:00 **Concurrent Student and Parent Sessions** (Repeated)

2:00 - 2:15 **Break**

2:15 - 3:00 **Panel Discussion of Professionals Working in Science and Mathematics**

3:00 - 3:15 **Wrap up and Evaluation**

REGISTRATION FORM

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN SCIENCE AND MATHEMATICS

A Career and Academic Planning Experience for Gifted Students in Grades 6-12 and Their Parents

University Center at The College of William & Mary
Williamsburg, Virginia
Saturday, May 3, 1997

Please register as soon as possible. Only 150 students and their parents can be accommodated. The registration fee for this session featuring Science and Mathematics is $30.00 per person. Students must be accompanied by a parent or guardian. *Registration forms and fees are due by April 18, 1997.*

Student's Name:_____

Student's Grade Level (circle one): 6 7 8 9 10 11 12

Attending Parent or Guardian's Name:_____

Address:_____
Street

_____
City **State** **Zip**

Phone: _____ _____

School Division:_____ **School:**_____

Please check the strands of science/mathematics in which you are most interested (check as many as apply)

_____ Biology
_____ Chemistry
_____ Computer Science
_____ Geology
_____ Mathematics
_____ Medicine
_____ Physics
_____ Psychiatry

Please include the registration fee for the circled number of individuals (students must be accompanied by one parent or guardian). *Make check payable to the College of William & Mary.*

Circle Number: **2** (**$60.00**) **3** (**$90.00**) **4** (**$120.00**)

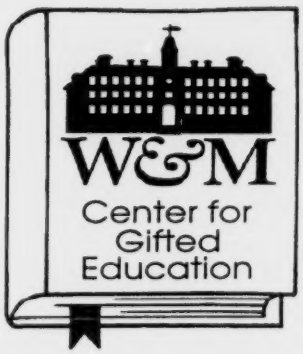
Amount Enclosed: **$**_____

Return the Registration Form and Fees *BY APRIL 18, 1997,* TO:

Valerie Moye
The College of William and Mary
Center for Gifted Education
232 Jamestown Road
Williamsburg, VA 23185
Phone (757) 221-2587 FAX (757) 221-2184

FOCUSING ON THE FUTURE

A Career and Academic Planning Experience for High-Ability Students in Grades 6-12 and Their Parents



Saturday, January 24, 1998
9:00 a.m. to 4:15 p.m.

The University Center
The College of William & Mary
Williamsburg, Virginia

Sponsored by
The Center for Gifted Education

REGISTRATION FORM

FOCUSING ON THE FUTURE
A Career and Academic Planning Experience
for High-Ability Students in Grades 6-12 and Their Parents

University Center
The College of William & Mary
Williamsburg, Virginia
Saturday, January 24, 1998

Please register as soon as possible. Only 200 students and their parents can be accommodated. The registration fee for this program is $30.00 per person. Students must be accompanied by a parent, guardian, or group chaperone. *Registration forms and fees are due by December 12, 1997.*

Student's Name:_____

Student's Grade Level (circle one): 6 7 8 9 10 11 12

Attending Parent, Guardian, or Chaperone's Name:_____

Address: _____
Street

_____
City **State** **Zip**

Phone: (_____) _____ **School District:**_____

NOTE: For each of the concurrent sessions, parents and students should indicate their 1st, 2nd, and 3rd workshop choices by writing #1, #2, or #3 in the space next to their workshops of choice. Please note that for each concurrent session students may choose from an arts strand, a humanities/social science strand, or a science/mathematics/technology strand. Student 1st, 2nd, and 3rd choices for each of the concurrent sessions may be among all three strands. Parents may choose from the parent workshop strand.

1ST CONCURRENT SESSION WORKSHOP CHOICES (10:30 - 11:30 a.m.)

Students and parents should indicate their 1st, 2nd, and 3rd choices for workshops for this session. Parent choices should be indicated under the parent workshop strand.

Arts Workshop Strand	*Humanities/ Social Sciences Workshop Strand*	*Science/ Mathematics/ Technology Workshop Strand*	*Parent Workshop Strand*
Ballet _____	Business _____	Psychiatry _____	Developing Your Child's Critical Thinking Skills _____
Film-making _____	Anthropology _____	Physics _____	Planning for College _____
Architecture _____	Education _____	Geology _____	Financial Planning for Parents of Middle School Students _____
			Social/Emotional Needs of Gifted Students _____

2ND CONCURRENT SESSION WORKSHOP CHOICES (12:45 - 1:45 p.m.)

Students and parents should indicate their 1st, 2nd, and 3rd choices for workshops for this session. Parent choices should be indicated under the parent workshop strand.

Arts Workshop Strand	*Humanities/ Social Sciences Workshop Strand*	*Science/ Mathematics/ Technology Workshop Strand*	*Parent Workshop Strand*
Vocal Music ____	English ____	Environmental Science ____	Encouraging Girls in Mathematics ____
Theatre ____	Government ____	Chemistry ____	Considerations in Career Planning ____
Photo-journalism ____	History ____	Engineering ____	Financial Planning for Parents of High School Students ____

3RD CONCURRENT SESSION WORKSHOP CHOICES (2:00 - 3:00 p.m.)

Students and parents should indicate their 1st, 2nd, and 3rd choices for workshops for this session. Parent choices should be indicated under the parent workshop strand.

Arts Workshop Strand	*Humanities/ Social Sciences Workshop Strand*	*Science/ Mathematics/ Technology Workshop Strand*	*Parent Workshop Strand*
Instrumental Music ____	Law ____	Biology ____	Planning for College ____
Art ____	International Studies ____	Mathematics ____	Academic Planning ____
Mass Communication ____	Psychology ____	Computer Science ____	So Your Child Wants to Attend William & Mary? ____

GUIDED TOUR OF WILLIAM & MARY (3:15 - 4:15 p.m.)
Please indicate whether you plan to take the guided tour of William & Mary. If you do plan to attend, please indicate the number of individuals who will be participating.

____ Yes, I plan to participate in the tour of William & Mary. (Number Attending:_____)

____ No, I *do not* plan to participate in the tour of William & Mary.

Please include the registration fee for the circled number of individuals (students must be accompanied by a parent, guardian, or chaperone). ***Make your check or money order payable to the College of William & Mary.***

Circle Number: 2($60.00) 3($90.00) 4($120.00)

Amount Enclosed: $_____

Return the Registration form and Fees *BY DECEMBER 12, 1997, to*

Valerie Moye
Center for Gifted Education
The College of William and Mary
P. O. Box 8795
Williamsburg, VA 23187-8795

Appendix B

Sample Press Releases

Sample Press

Center for Gifted Education Hosts Career and Academic Planning Program Series

The Center for Gifted Education is hosting a series of career and academic planning programs for gifted students in grades 6 through 12 and their parents. The purposes of the program series are to provide opportunities for high ability learners to explore possible careers options related to the arts, humanities, mathematics, and sciences; and to offer parents information for guiding their children's future education.

The programs, which differ according to three distinct career foci, have been scheduled for three different Saturdays during the1996-97 school year. The programs feature general sessions, student workshops, and parent workshops. Student workshops focus on career possibilities in the various disciplines. Parent workshops highlight various academic planning, college planning, and parenting concerns. All sessions are led by practicing professionals or professors in the various disciplines at William and Mary.

The first two programs were held on January 18, 1997, and March 8, 1997, These programs featured careers in the humanities and social sciences and in the arts, respectively. Over 70 families attended each and provided very positive feedback. They indicated that the program provided a valuable community service that is not offered elsewhere.

A third program featuring careers in mathematics and science will be held on May 3, 1997. It will be held at William and Mary's University Center, from 9:00 a.m. to 3:15 p.m., and will cost $30 per participant. The registration deadline is April 18, 1997. For additional information, please contact Valerie Moye, at the Center for Gifted Education, (757) 221-2587.

CENTER HOSTS CAREER AND ACADEMIC PLANNING WORKSHOP SERIES

The Center for Gifted Education at the College of William & Mary is hosting a series of career and academic planning workshops for gifted students in grades 6 through 12. The purposes of the workshop series are as follows:

- to expose gifted students to career opportunities related to the arts, humanities, mathematics, and sciences; and

- to inform students' parents of considerations and guidelines for effective academic planning.

A total of three workshops will be offered on three different Saturdays during the 1996-97 school year. The workshops will differ according to three distinct career foci. On **January 18, 1997**, the program will feature ***Focusing on the Future: Considering Careers in the Humanities and the Social Sciences***. The second program, ***Focusing on the Future: Considering Careers in the Arts***, will be held on **March 8, 1997**. The last program, ***Focusing on the Future: Considering Careers in Mathematics and the Sciences***, will be held on **May 3, 1997**. All workshops will be held at the University Center at the College of William and Mary, from 9:00 a.m. to 3:15 p.m.. Each workshop will cost $30 per participant.

Sample Program: ***Focusing on the Future: Considering Careers in the Humanities and Social Sciences***

9:00 - 9:15 **Welcome and Introductory Remarks**
9:15 - 9:30 **Overview of the Day**
9:30 - 10:15 **Keynote Address**
10:15 - 10:30 **Break**
10:30 - 11:45 **Concurrent Sessions for Students and Parents**

Student Sessions
- *Careers Related to Classical Studies*
- *Careers in Foreign Languages*
- *Economics Careers*
- *Government Careers*

Parent Sessions
- *Helping Children Develop Academic & Study Skills*
- *Planning for College*
- *Social & Emotional Needs of the Gifted*
- *Academic Planning*

11:45 - 12:45 **Lunch**
12:45 - 2:00 **Concurrent Sessions for Students and Parents**

Student Sessions
- *Careers in English*
- *International Careers*
- *History-Related Careers*
- *Psychology-Related Careers*

Parent Session **(Repeated from the Morning)**

2:00 - 2:15 **Break**
2:15 - 3:00 **Panel Discussion - *Cross-Disciplinary Careers***
3:00 - 3:15 **Wrap-up and Evaluation**

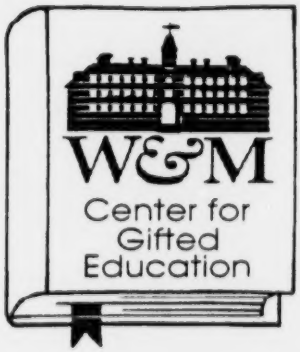
For additional information about these program opportunities, please contact Valerie Moye at the Center for Gifted Education, (757) 221-2587.

Appendix C

Programs

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN THE ARTS

A Career and Academic Planning Experience for Gifted Students in Grades 6-12 and Their Parents



Saturday, March 8, 1997
9:00 a.m. to 3:15 p.m.

The University Center
The College of William & Mary
Williamsburg, Virginia

Sponsored by
The Center for Gifted Education

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN THE ARTS

Saturday, March 8, 1997
The University Center at the College of William and Mary

PROGRAM		***Location***
9:00 - 9:15	**Welcome and Introductory Remarks** ***Dr. Joyce VanTassel-Baska*** ***Director of the Center for Gifted Education***	***Auditorium***
9:15 - 9:30	**Overview of the Day and Introduction of Speaker** ***Valerie Moye, Career Series Project Director***	***Auditorium***
9:30 - 10:15	**Keynote Address:** ***A Life in the Arts*** ***Phil Crosby, Revenue Director - The Richmond Ballet Company***	***Auditorium***
10:15 - 10:30	**Break**	
10:30 - 11:45	**Concurrent Sessions for Students and Parents**	

Student Sessions	***Presenters***	***Location***
Careers in Architecture	***A. Joe Poole*** Colonial Williamsburg	***Chesapeake B***
Careers in Photo Journalism	***Tim Wright*** Free Lance Photo Journalist	***Tidewater A***
Careers in Theatre	***Phil Crosby*** Revenue Director The Richmond Ballet Company	***Chesapeake A***

Parent Sessions	***Presenters***	***Location***
Academic Planning	***Dr. Joyce VanTassel-Baska*** Smith Professor in Education Director of Center for Gifted Education The College of William & Mary	***James Room***
Planning for College	***Sandy Berger*** Information Specialist Council for Exceptional Children Reston, Virginia	***Chesapeake C***
So Your Student is Considering William and Mary?	***Dr. Virginia Carey*** Dean of Admissions The College of William and Mary	***Tidewater B***

11:45 - 12:45 **Lunch** **(On Your Own in the University Center Cafeteria)**

BEST COPY AVAILABLE

12:45 - 2:00 **Concurrent Sessions**

Student Sessions	***Presenters***	
Careers in Art	***Cecky Ropelewski*** Artist & Member of the Richmond Symphony Chorus	***Tidewater B***
Careers in Dance	***Brett Bonda*** Community Relations Director The Richmond Ballet Company	***Chesapeake A***
Careers in Music	***Barry Hayes*** Director, Multimedia Services Science Museum of Virginia	***Chesapeake B***
Script Writing	***Ernest Skinner*** Film Maker	***Tidewater A***

Parent Sessions	***Presenters***	
Social and Emotional Needs of Gifted Students	***Dr. Jill Burruss*** Assistant Professor, School of Education The College of William and Mary	***James Room***
Planning for College	***Sandy Berger*** Information Specialist Council for Exceptional Children Reston, Virginia	***Chesapeake C***
Helping Your Child Develop Critical Thinking and Intelligent Tactics	***Linda Boyce*** Coordinator, Curriculum Development & Research The Center for Gifted Education The College of William and Mary	***York Room***

2:00 - 2:15 **Break**

2:15 - 3:00 **Panel Discussion - *Landing on Your Feet through Versatility: Interrelating the Arts***

Moderator- **Dr. Virginia McLaughlin,** Dean - School of Education, The College of William & Mary

George Jack, Professor - Visiting Professor - Theatre and Speech, The College of William & Mary

Brett Bonda, Community Relations Director
The Richmond Ballet Company

Barry Hayes, Director - Multimedia Services
Science Museum of Virginia

Cecky Ropelewski, Free Lance Artist & Member of the Richmond Symphony Chorus

3:00 - 3:15 **Wrap up and Evaluation**

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN THE HUMANITIES AND THE SOCIAL SCIENCES

A Career and Academic Planning Experience for Gifted Students in Grades 6-12 and Their Parents

W&M
Center for Gifted Education

Saturday, January 18, 1997
9:00 a.m. to 3:15 p.m.

The University Center
The College of William & Mary
Williamsburg, Virginia

Sponsored by
The Center for Gifted Education

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN THE HUMANITIES & THE SOCIAL SCIENCES

Saturday, January 18, 1997
The University Center at the College of William and Mary

PROGRAM		***Location***
9:00 - 9:15	**Welcome and Introductory Remarks** *Dr. Joyce VanTassel Baska*	***Auditorium***
9:15 - 9:30	**Overview of the Day and Introduction of Speaker** *Valerie Moye*	***Auditorium***
9:30 - 10:15	**Keynote Address:** ***Recording an Epic Experience*** *Ernest Skinner*	***Auditorium***
10:15 - 10:30	**Break**	
10:30 - 11:45	**Concurrent Sessions for Students and Parents**	

Student Sessions	***Presenter***	
Economics Careers	***Dr. Eric Jensen*** Associate Professor, Economics The College of William & Mary	***Tidewater B***
Careers in Foreign Languages	***Dr. Katherine Kulick*** Chair, Modern Languages The College of William & Mary	***Chesapeake A***
Government Careers	***Dr. John McGlennon*** Chair, Government The College of William & Mary	***Chesapeake B***

Parent Sessions	***Presenter***	
Academic Planning	***Dr. Joyce VanTassel Baska*** Smith Professor in Education Director of Center for Gifted Education The College of William & Mary	***York Room***
Social and Emotional Needs of Gifted Students	***Dr. Jill Burruss*** Assistant Professor, School of Education The College of William and Mary	***James Room***
Planning for College	***Sandy Berger*** Information Specialist Council for Exceptional Children Reston, Virginia	***Chesapeake C***

11:45-12:45 **Lunch** **(On Your Own in the University Center Cafeteria)**

12:45 -2:00 **Concurrent Sessions**

Student Sessions	*Presenter*	
Careers in English	***Dr. Jo Ann Braxton*** Professor, English The College of William & Mary	*Tidewater A*
History-Related Careers	***Dr. Kimberly Phillips*** Assistant Professor, History The College of William & Mary	*Tidewater B*
International Careers	***Dr. Michael Clark*** Assistant Director of International Studies The College of William & Mary	*Chesapeake A*
Psychology-Related Careers	***Dr. Deborah Green*** Associate Professor, Psychology The College of William & Mary	*Chesapeake B*

Parent Sessions	*Presenter*	
Social and Emotional Needs of Gifted Students	***Dr. Jill Burruss*** Assistant Professor, School of Education The College of William and Mary	*James Room*
Planning for College	***Sandy Berger*** Information Specialist Council for Exceptional Children Reston, Virginia	*Chesapeake C*
Helping Your Child Develop Critical Thinking and Intelligent Tactics	***Linda Boyce*** Coordinator, Curriculum Development & Research, The Center for Gifted Education The College of William and Mary	*Colony Room*

2:00 - 2:15 **Break**

2:15 - 3:00 **Panel Discussion - *Cross-Disciplinary Careers*** *Auditorium*

Moderator- **Dr. Virginia McLaughlin, Dean - School of Education, The College of William & Mary**

Dr. Michael Clark, Visiting Professor for the Center of International Studies, The College of William & Mary

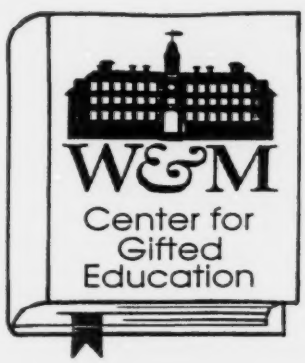
Dr. Robert Gross, Director of American Studies, The College of William & Mary

Dr. Joyce VanTassel-Baska, Smith Professor in Education Director, Center for Gifted Education, The College of William & Mary

3:00 - 3:15 **Wrap up and Evaluation**

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN SCIENCE AND MATHEMATICS

A Career and Academic Planning Experience for Gifted Students in Grades 6-12 and Their Parents



Saturday, May 3, 1997
9:00 a.m. to 3:15 p.m.

The University Center
The College of William & Mary
Williamsburg, Virginia

Sponsored by
The Center for Gifted Education

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN SCIENCE AND MATHEMATICS

Saturday, May 3, 1997
The University Center at the College of William and Mary

PROGRAM		*Location*
9:00 - 9:15	**Welcome and Introductory Remarks** ***Dr. Joyce VanTassel-Baska -Director of the Center for Gifted Education***	***Auditorium***
9:15 - 9:30	**Overview of the Day and Introduction of Speaker** ***Valerie Moye, Career Series Project Director***	***Auditorium***
9:30 - 10:15	**Keynote Address: *Archeological Excavations at John Smith's Jamestown*** ***Nickolas Luccketti - Senior Research Archeologist for Jamestown***	***Auditorium***
10:15 - 10:30	**Break**	
10:30 - 11:45	**Concurrent Sessions for Students and Parents**	

Student Sessions	*Presenters*	
Careers in Medicine	***Dr. Paul Aravich*** Eastern Virginia Medical School	***Chesapeake A***
Careers in Mathematics	***Dr. Charles Johhson*** College of William & Mary	***Chesapeake B***
Careers in Biology	***Dr. Beverly Sher*** The College of William & Mary	***Tidewater A***
Careers in Chemistry	***Dr. Gary Rice*** College of William & Mary	***Rogers Hall*** NOTE: Dr. Rice will escort students to Rogers Hall

Parent Sessions	*Presenters*	
Computer Science for Parents	***Dr. Stephen Park*** The College of William & Mary	***Tidewater B***
Planning for College	***Sandy Berger*** Information Specialist Council for Exceptional Children Reston, Virginia	***Chesapeake C***
So Your Student is Considering William and Mary?	***Dr. Virginia Carey*** Dean of Admissions The College of William & Mary	***York Room***

11:45 - 12:45 **Lunch** **(On Your Own in the University Center Cafeteria)**

12:45 - 2:00 **Concurrent Sessions**

Student Sessions	***Presenters***	
Careers in Geology	***Dr. Gerald Johnson*** The College of Virginia	***Chesapeake B***
Careers in Psychiatry	***Dr. Cheryl Al-Mateen*** Medical College of Virginia	***Chesapeake A***
Careers in Computer Science	***Dr. Stephen Park*** The College of William & Mary	***Tidewater B***
Careers in Physics	***Dr. Marc Sher*** The College of William & Mary	***Tidewater A***

Parent Sessions	***Presenters***	
Encouraging Girls in Mathematics & Science	***Dana Johnson*** The College of William & Mary	***James Room***
Planning for College	***Sandy Berger*** Information Specialist Council for Exceptional Children Reston, Virginia	***Chesapeake C***
Academic Planning	***Dr. Joyce VanTassel-Baska*** The College of William & Mary	***York Room***

2:00 - 2:15 **Break**

2:15 - 3:00 **Panel Discussion -** ***Auditorium***
Cross Disciplinary Careers in the Sciences

Moderator- **Dr. Joyce VanTassel-Baska**, Director of the Center for Gifted Education, The College of William & Mary

Dr. Gerald Johnson, Geology Professor - The College of William & Mary

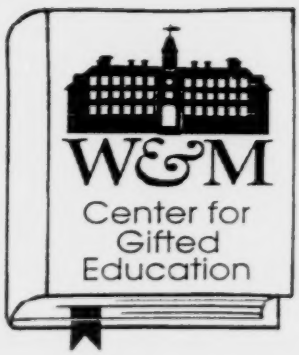
Dr. Cheryl Al-Mateen, Psychiatrist - The Medical College of Virginia

Dr. Marc Sher, Physics Professor - The College of William & Mary

3:00 - 3:15 **Wrap up and Evaluation**

FOCUSING ON THE FUTURE

A Career and Academic Planning Experience for High-Ability Students in Grades 6-12 and Their Parents



Saturday, January 24, 1998
9:00 a.m. to 4:15 p.m.

The College of William & Mary
Williamsburg, Virginia

Sponsored by
The Center for Gifted Education

FOCUSING ON THE FUTURE
A Career and Academic Planning Experience
for High-Ability Students in Grades 6-12 and Their Parents

Saturday, January 24, 1998
Center for Gifted Education
The College of William & Mary

PROGRAM		***Location***
9:00 - 9:15	**WELCOME/INTRODUCTORY REMARKS** ***Dr. Joyce VanTassel-Baska*** ***Director of the Center for Gifted Education***	***Univ. Ctr. Auditorium***
9:15 - 9:30	**OVERVIEW OF DAY/INTRODUCTION OF PANEL** ***Valerie Moye, Coordinator of Special Projects***	***Univ. Ctr. Auditorium***
9:30 - 10:15	**PANEL DISCUSSION** ***The Dilemma: Should I Consider a Career in the Arts, the Humanities, or the Sciences?***	***Univ. Ctr. Auditorium***

Moderator- **Dr. Virginia McLaughlin -**
Dean - School of Education, The College of William & Mary

Dr. Elizabeth Wiley - Assistant Professor - Theater and Speech,
Representing the Arts, The College of William & Mary

Dr. Kimberly Phillips - Assistant Professor - History,
Representing the Humanities, The College of William & Mary

Dr. Gerald Johnson - Professor - Geology,
Representing the Sciences, The College of William & Mary

10:15 - 10:30	**BREAK**	
10:30 - 11:30	**FIRST CONCURRENT SESSION FOR STUDENTS & PARENTS**	

Student Sessions	*Presenters*	*Location*
Careers in Anthropology	***Dr. Mary Voight*** Chair, Anthropology Dept. The College of William & Mary	***Blair Hall Room 201***
Careers in Architecture	***Mr. Scott Spence*** Architecture and Engineering Dept. Colonial Williamsburg Foundation	***Blair Hall Room 223***
Careers in Business	***Dr. Donald Messmer*** Professor, School of Business Admin. The College of William & Mary	***Univ. Ctr. York Room***
Careers in Dance	***Mr. Brett Bonda*** Community Relations Director The Richmond Ballet Company	***Univ. Ctr. Tidewater B***
Careers in Education	***Dr. Virginia McLaughlin*** Dean, School of Education The College of William & Mary	***Univ. Ctr. James Room***

(Please, turn over.)

Careers in Film-making	***Mr. Ernest Skinner*** Virginia Dept. of Education Film-maker	***Univ. Ctr.*** ***Tidewater A***
Careers in Geology	***Dr. Gerald Johnson*** Professor, Geology Dept. The College of William & Mary	***Univ. Ctr.*** ***Colony Room***
Careers in Physics	***Dr. Marc Sher*** Associate Professor, Physics Dept. The College of William & Mary	***Blair Hall*** ***Room 221***
Careers in Psychiatry	***Dr. Cheryl Almateen*** Psychiatrist Medical College of Virginia	***Blair Hall*** ***Room 229***

Parent Sessions	***Presenters***	***Location***
Financial Planning for Parents of Middle School Students	***Mr. Donald Ackley*** Financial Advisor American Express	***Blair Hall*** ***Room 205***
Helping Your Child Develop Critical Thinking and Intelligent Tactics	***Ms. Linda Neal Boyce*** Secondary Enrichment Resource Specialist Jamestown High School Williamsburg - James City County	***Univ. Ctr.*** ***Chesapeake A***
Planning for College	***Ms. Sandra Berger*** Information Specialist Council for Exceptional Children Reston, Virginia	***Univ. Ctr.*** ***Chesapeake C***
Social and Emotional Needs of Gifted Students	***Dr. Jill Burruss*** Assistant Professor, School of Education The College of William & Mary	***Univ. Ctr.*** ***Chesapeake B***

11:30- 12:45 **LUNCH (ON YOUR OWN)**

12:45 - 1:45 **SECOND CONCURRENT SESSION FOR STUDENTS AND PARENTS**

Student Sessions	***Presenters***	***Location***
Careers in Chemistry	***Dr. Gary Rice*** Associate Professor, Chemistry The College of William & Mary	***Blair Hall*** ***Room 229***
Careers in Engineering	***Dr. Christine Darden*** Senior Project Engineer, NASA	***Univ. Ctr.*** ***Tidewater A***
Careers in English	***Dr. Joanne Braxton*** Professor, English and American Studies The College of William & Mary	***Univ. Ctr.*** ***James Room***

Careers in Government	***Dr. Clay Clemens*** Associate Professor, Government The College of William & Mary	***Blair Hall*** ***Room 223***
Careers in History	***Dr. Kimberly Phillips*** Assistant Professor, History The College of William & Mary	***Blair Hall*** ***Room 205***
Careers in Marine Science	***Dr. Vikki Clark*** Marine Education Specialist Virginia Institute of Marine Science The College of William & Mary	***Univ. Ctr.*** ***Chesapeake C***
Careers in Theater	***Dr. Elizabeth Wiley*** Assistant Professor, Theater and Speech The College of William & Mary	***Univ. Ctr.*** ***Tidewater B***
Careers in Vocal Music	***Dr. James Armstrong*** Director, Choir The College of William & Mary	***Univ. Ctr.*** ***York Room***

Parent Sessions	*Presenters*	
Considerations in Career Planning	***Dr. Victoria Lutzer*** Visiting Professor, School of Education The College of William & Mary	***Univ. Ctr.*** ***Auditorium***
Encouraging Girls in Mathematics and Science	***Ms. Dana Johnson*** Curriculum Coordinator, Center for Gifted Education The College of William & Mary	***Univ. Ctr.*** ***Chesapeake B***
Financial Planning for Parents of High School Students	***Dr. Edward Irish*** Director of Financial Planning The College of William & Mary	***Univ. Ctr.*** ***Chesapeake A***

1:45 - 2:00 **BREAK**

2:00 - 3:00 **THIRD CONCURRENT SESSION FOR STUDENTS AND PARENTS**

Student Sessions	*Presenters*	*Location*
Careers in Biology	***Dr. Beverly Sher*** Visiting Professor, Biology The College of William & Mary	***Blair Hall*** ***Room 205***
Careers in Computer Science	***Dr. Stephen Park*** Chair, Computer Science The College of William & Mary	***Univ. Ctr.*** ***Tidewater B***
Careers in Instrumental Music	***Mr. Jaye Sinnett*** WHRV-FM	***Univ. Ctr.*** ***James Room***
Careers in International Studies	***Dr. Brian Blouet*** Reves Scholar in Residence The College of William & Mary	***Blair Hall*** ***Room 229***

(Please, turn over.)

Careers in Law	***Dr. Frederic Lederer*** Chancellor Professor, School of Law The College of William & Mary	***Blair Hall*** ***Room 223***
Careers in Mass Communications	***Mr. Mark Hubbard*** Reporter and Anchor WWBT-NBC Channel 12	***Univ. Ctr.*** ***Tidewater A***
Careers in Mathematics	***Dr. Charles Johnson*** Professor, Mathematics The College of William & Mary	***Univ. Ctr.*** ***York Room***
Parent Sessions	***Presenters***	***Location***
Academic Planning	***Dr. Joyce VanTassel-Baska*** Smith Professor in Education Director of Center for Gifted Education The College of William & Mary	***Univ. Ctr.*** ***Chesapeake A***
Planning for College	***Ms. Sandra Berger*** Information Specialist Council for Exceptional Children Reston, Virginia	***Univ. Ctr.*** ***Chesapeake C***
So Your Student is Considering William and Mary?	***Dr. Virginia Carey*** Dean of Admissions The College of William and Mary	***Univ. Ctr.*** ***Auditorium***

3:15 - 4:15 **TOUR OF THE COLLEGE OF WILLIAM & MARY**
(Meet in the auditorium of the University Center.)

SPECIAL THANKS

A special thanks goes to Lisa Schenkel for her assistance with Focusing on the Future. Her support in planning the many details of this program has been invaluable.

Appendix D

Sample Letters to Presenters

The College Of
WILLIAM & MARY

Center for Gifted Education
P.O. Box 8795, 232 Jamestown Road
Williamsburg, Virginia 23187-8795

(757) 221-2362
FAX: (757) 221-2184

January 21, 1998

Dr. Kimberly Phillips
Assistant Professor, History
The College of William and Mary
James Blair Hall - 305
Williamsburg, VA 23187

Dear Dr. Phillips:

Thank you for your willingness to serve as a member of the panel for *Focusing on the Future*. As you know, this program will be held at the University Center on Saturday, January 24, 1998. We know that you will provide a valuable contribution to this learning opportunity for gifted students in grades 6 through 12 and their parents.

The panel discussion entitled, *The Dilemma: Should I Consider a Career in the Arts, the Humanities, or the Sciences?*, will be held in the auditorium of the University Center during the general session. The general session will begin at 9:00 a.m. with a welcome by Dean McLaughlin, opening remarks by Dr. VanTassel-Baska, and an overview of the day. Once this has taken place, panel members will be introduced and the discussion will take place until 10:15 a.m., which is when the general session will conclude. Panel members will be Dr. Gerald Johnson, representing the Sciences, Dr. Virginia Wiley, representing the Arts. and you, representing the Humanities. We are asking each panel member to prepare a 10 minute persuasive talk that reveals why students should consider the pursuit of a career in the career strand that he or she is representing. After all presentations have been made, Dean McLaughlin will guide subsequent discussion among the panel members and will facilitate the process for responding to audience questions. Since this panel discussion will be part of the general session, we ask that you meet us in the auditorium a little before 9:00 a.m. Seats will be saved for you on the front row so that the panel members will have easy access to the stage.

Again, we thank you for your willingness to be a part of the panel discussion. If you have additional questions, please feel free to call Valerie Moye at (757) 221-2186.

Sincerely,

Joyce VanTassel-Baska
Smith Professor in Education
Director of the Center for Gifted Education

Valerie Moye
Coordinator of Special Projects

The College Of
WILLIAM & MARY

Center for Gifted Education
P.O. Box 8795, 232 Jamestown Road
Williamsburg, Virginia 23187-8795

(757) 221-2362
FAX: (757) 221-2184

November 23, 1997

Mr. Scott Spence
Architecture and Engineering Department
Colonial Williamsburg Foundation
Bruton Heights School, 301 First Street
Williamsburg, VA 23185

Dear Mr. Spence:

We want thank you for your willingness to serve as a workshop presenter for *Focus on the Future: A Career and Academic Planning Experience for High Ability Students in Grades 6-12 and Their Parents.* We know that you will provide a valuable contribution to this learning opportunity for students and their parents. As you know, the program will be held at the University Center and Blair Hall, on Saturday, January 24, 1998.

Your workshop on ***Architecture Careers.*** will be held **10:30 - 11:30 a.m.**. Presently, you should be prepared for approximately 35 participants; however after the January 9 registration deadline, we will provide you with additional information about the participants in your workshops and your room assignment. Please indicate your equipment needs on the enclosed information form and return the form no later than December 15, 1997, to Valerie Moye, at the Center for Gifted Education.

You will be paid an honorarium of **$150.00** as an appreciation for the valuable service that you are providing. Also, as discussed, we will pay for your gas mileage. Please complete the information on the enclosed form and return it prior to December 15, to Valerie Moye, at the Center for Gifted Education. This will speed up the processing of your payment.

Just a reminder that your workshop should focus on career opportunities which could evolve from an interest in your concentration area. During the workshop, students should be exposed to (1) an activity that pertains to the concentration area, (2) information about work habits and "habits of mind" that lead to successful careers, (3) information about career opportunities in your field, and (4) steps that students might take in preparing for careers in your field.

Again, we thank you for your willingness to share your time and expertise. If you have additional questions or concern, please feel free to call either Valerie Moye, at (757) 221-2186, or Lisa Schenkel, at (757) 221-2587.

Sincerely,

Joyce VanTassel-Baska
Director , Center for Gifted Education

Valerie H. Moye
Coordinator of Special Projects

The College Of
WILLIAM & MARY

Center for Gifted Education
P.O. Box 8795, 232 Jamestown Road
Williamsburg, Virginia 23187-8795

(757) 221-2362
FAX: (757) 221-2184

November 23, 1997

Mr. Ernest Skinner
Film-maker
Virginia Department of Education
P. O. Box 2120
Richmond, VA 23186-2120

Dear Mr. Skinner:

We want thank you for your willingness to serve as a workshop presenter for *Focus on the Future: A Career and Academic Planning Experience for High Ability Students in Grades 6-12 and Their Parents*. We know that you will provide a valuable contribution to this learning opportunity for students and their parents. As you know, the program will be held at the University Center and Blair Hall, on Saturday, January 24, 1998.

Your workshop on ***Film-making Careers.*** will be held **10:30 - 11:30 a.m.**. Presently, you should be prepared for approximately 35 participants; however after the January 9 registration deadline, we will provide you with additional information about the participants in your workshops and your room assignment. Please indicate your equipment needs on the enclosed information form and return the form no later than December 15, 1997, to Valerie Moye, at the Center for Gifted Education.

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Again, we thank you for your willingness to share your time and expertise. If you have additional questions or concern, please feel free to call either Valerie Moye, at (757) 221-2186, or Lisa Schenkel, at (757) 221-2587.

Sincerely,

Joyce VanTassel-Baska
Director , Center for Gifted Education

Valerie H. Moye
Coordinator of Special Projects

The College Of
WILLIAM & MARY

Center for Gifted Education
P.O. Box 8795, 232 Jamestown Road
Williamsburg, Virginia 23187-8795

(757) 221-2362
FAX: (757) 221-2184

November 23, 1997

Mr. Brett Bonda
Community Relations Director
The Richmond Ballet
614 Nort Lombardy
Richmond, VA 23220

Dear Mr. Bonda:

We want thank you for your willingness to serve as a workshop presenter for *Focus on the Future: A Career and Academic Planning Experience for High Ability Students in Grades 6-12 and Their Parents.* We know that you will provide a valuable contribution to this learning opportunity for students and their parents. As you know, the program will be held at the University Center and Blair Hall, on Saturday, January 24, 1998.

Your workshop on ***Dance Careers.*** will be held **10:30 - 11:30 a.m.**. Presently, you should be prepared for approximately 35 participants; however after the January 9 registration deadline, we will provide you with additional information about the participants in your workshops and your room assignment. Please indicate your equipment needs on the enclosed information form and return the form no later than December 15, 1997, to Valerie Moye, at the Center for Gifted Education.

You will be paid an honorarium of **$150.00** as an appreciation for the valuable service that you are providing. Also, as discussed, we will pay for your gas mileage. Please complete the information on the enclosed form and return it prior to December 15, to Valerie Moye, at the Center for Gifted Education. This will speed up the processing of your payment.

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Again, we thank you for your willingness to share your time and expertise. If you have additional questions or concern, please feel free to call either Valerie Moye, at (757) 221-2186, or Lisa Schenkel, at (757) 221-2587.

Sincerely,

Joyce VanTassel-Baska
Director , Center for Gifted Education

Valerie H. Moye
Coordinator of Special Projects

The College Of
WILLIAM & MARY

Center for Gifted Education
P.O. Box 8795, 232 Jamestown Road
Williamsburg, Virginia 23187-8795

(757) 221-2362
FAX: (757) 221-2184

November 23, 1997

Dr. Cheryl Al-Mateen
Psychiatrist
Medical College of Virginia
2212 Turtle Hall Lane
Midlothian, VA 23112

Dear Dr. Al-Mateen:

We want thank you for your willingness to serve as a workshop presenter for *Focus on the Future: A Career and Academic Planning Experience for High Ability Students in Grades 6-12 and Their Parents.* We know that you will provide a valuable contribution to this learning opportunity for students and their parents. As you know, the program will be held at the University Center and Blair Hall, on Saturday, January 24, 1998.

Your workshop on ***Psychiatry Careers.*** will be held **10:30 - 11:30 a.m.**. Presently, you should be prepared for approximately 35 participants; however after the January 9 registration deadline, we will provide you with additional information about the participants in your workshops and your room assignment. Please indicate your equipment needs on the enclosed information form and return the form no later than December 15, 1997, to Valerie Moye, at the Center for Gifted Education.

You will be paid an honorarium of **$150.00** as an appreciation for the valuable service that you are providing. Also, as discussed, we will pay for your gas mileage. Please complete the information on the enclosed form and return it prior to December 15, to Valerie Moye, at the Center for Gifted Education. This will speed up the processing of your payment.

Just a reminder that your workshop should focus on career opportunities which could evolve from an interest in your concentration area. During the workshop, students should be exposed to (1) an activity that pertains to the concentration area, (2) information about work habits and "habits of mind" that lead to successful careers, (3) information about career opportunities in your field, and (4) steps that students might take in preparing for careers in your field.

Again, we thank you for your willingness to share your time and expertise. If you have additional questions or concern, please feel free to call either Valerie Moye, at (757) 221-2186, or Lisa Schenkel, at (757) 221-2587.

Sincerely,

Joyce VanTassel-Baska
Director , Center for Gifted Education

Valerie H. Moye
Coordinator of Special Projects

The College Of
WILLIAM & MARY

Center for Gifted Education
P.O. Box 8795, 232 Jamestown Road
Williamsburg, Virginia 23187-8795

(757) 221-2362
FAX: (757) 221-2184

November 23, 1997

Mr. Jaye Sinnett
WHRV-FM
1317 B., Quail Creek Hollow
Chesapeake, VA 23320

Dear Mr. Sinnett:

We want thank you for your willingness to serve as a workshop presenter for *Focus on the Future: A Career and Academic Planning Experience for High Ability Students in Grades 6-12 and Their Parents*. We know that you will provide a valuable contribution to this learning opportunity for students and their parents. As you know, the program will be held at the University Center and Blair Hall, on Saturday, January 24, 1998.

Your workshop on ***Instrumental Music Careers.*** will be held **2:00 - 3:00 p.m.**. Presently, you should be prepared for approximately 35 participants; however after the January 9 registration deadline, we will provide you with additional information about the participants in your workshops and your room assignment. Please indicate your equipment needs on the enclosed information form and return the form no later than December 15, 1997, to Valerie Moye, at the Center for Gifted Education.

You will be paid an honorarium of **$150.00** as an appreciation for the valuable service that you are providing. Also, as discussed, we will pay for your gas mileage. Please complete the information on the enclosed form and return it prior to December 15, to Valerie Moye, at the Center for Gifted Education. This will speed up the processing of your payment.

Just a reminder that your workshop should focus on career opportunities which could evolve from an interest in your concentration area. During the workshop, students should be exposed to (1) an activity that pertains to the concentration area, (2) information about work habits and "habits of mind" that lead to successful careers, (3) information about career opportunities in your field, and (4) steps that students might take in preparing for careers in your field.

Again, we thank you for your willingness to share your time and expertise. If you have additional questions or concern, please feel free to call either Valerie Moye, at (757) 221-2186, or Lisa Schenkel, at (757) 221-2587.

Sincerely,

Joyce VanTassel-Baska
Director , Center for Gifted Education

Valerie H. Moye
Coordinator of Special Projects

Appendix E

Student and Parent Program Evaluation Forms

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN THE HUMANITIES AND THE SOCIAL SCIENCES

Student Program Evaluation

The workshop was well organized.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The facilities were appropriate for the day's activities.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

General Session

The general session provided helpful information.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Morning Session

Title of morning session attended:

The workshop provided helpful information about careers.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop allowed students to be actively involved.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

(OVER PLEASE)

Afternoon Session

Title of afternoon session attended:

The workshop provided helpful information about careers.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop allowed students to be actively involved.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Panel Discussion

The panel discussion was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Which presentation was most helpful and why?

Which presentation was least helpful and why?

What changes in the workshop day would you recommend for improvement?

Please provide any additional comments to help with future planning.

FOCUSING ON THE FUTURE: CONSIDERING CAREERS IN THE HUMANITIES AND THE SOCIAL SCIENCES

Parent Program Evaluation

The workshop was well organized.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The facilities were appropriate for the day's activities.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

General Session

The general session provided helpful information.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Morning Session

Title of morning session attended:

The workshop provided helpful information about considerations and guidelines for effective academic planning and other issues pertaining to gifted students.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

(OVER PLEASE)

Afternoon Session

Title of afternoon session attended:

The workshop provided helpful information about considerations and guidelines for effective academic planning and other issues pertaining to gifted students.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Panel Discussion

The panel discussion was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Which presentation was most helpful and why?

Which presentation was least helpful and why?

What changes in the workshop day would you recommend for improvement?

Please provide any additional comments to help with future planning.

Appendix F

1997 Program Evaluation Summaries

Analysis of 1997 Evaluations

Student Evaluations of Arts; Humanities; and Science and Mathematics Strands

Students participating in *the 1997 Focusing on the Future: Considering Careers in the Arts* showed a high level of receptivity to the content and presentations of the general session, their specific areas of interest, and the panel discussion (see attached chart). Students especially seemed to value the insights they were given into particular careers. For example, one student commented that the art presentation was most helpful in that the speaker "brought art back to realilty." In addition, a student noted that the theater presentation "was most helpful in that it provided knowledge of other opportunities for expression in drama." Others commented that the "keynote address made me realize that a career in theater is more than just acting," and that the photojournalism speaker "was funny, nice, and clearly stated the pros and cons of the job." Suggestions for improvement focused on the logistics of getting food and on the need to increase the opportunity to attend more workshops.

Similarly, students participating in the *1997 Focusing on the Future: Considering Careers in the Humanities and the Social Sciences* also showed a high level of receptivity to the content and presentations of the general session, their specific areas of interest, and the panel discussion (see attached chart). Students were especially enthusiastic about those presentations that involved considerable student interaction, were practical and informative, and related the particular field with its application to a variety of careers. The quality of presentation also had an impact. One participant commented that a speaker's "personality and life experiences lent themselves well to the information she presented. Not only did she make me want to pursue a career in English, she made me want to enroll in her class, and she seemed greatly interested in audience questions." Another student stated that a particular presentation "opened up my mind to different areas and the reality of what psychology actually is." Suggestions again centered on the food and on providing more sessions, and making sure that they incorporated hands-on activities. Changes were also

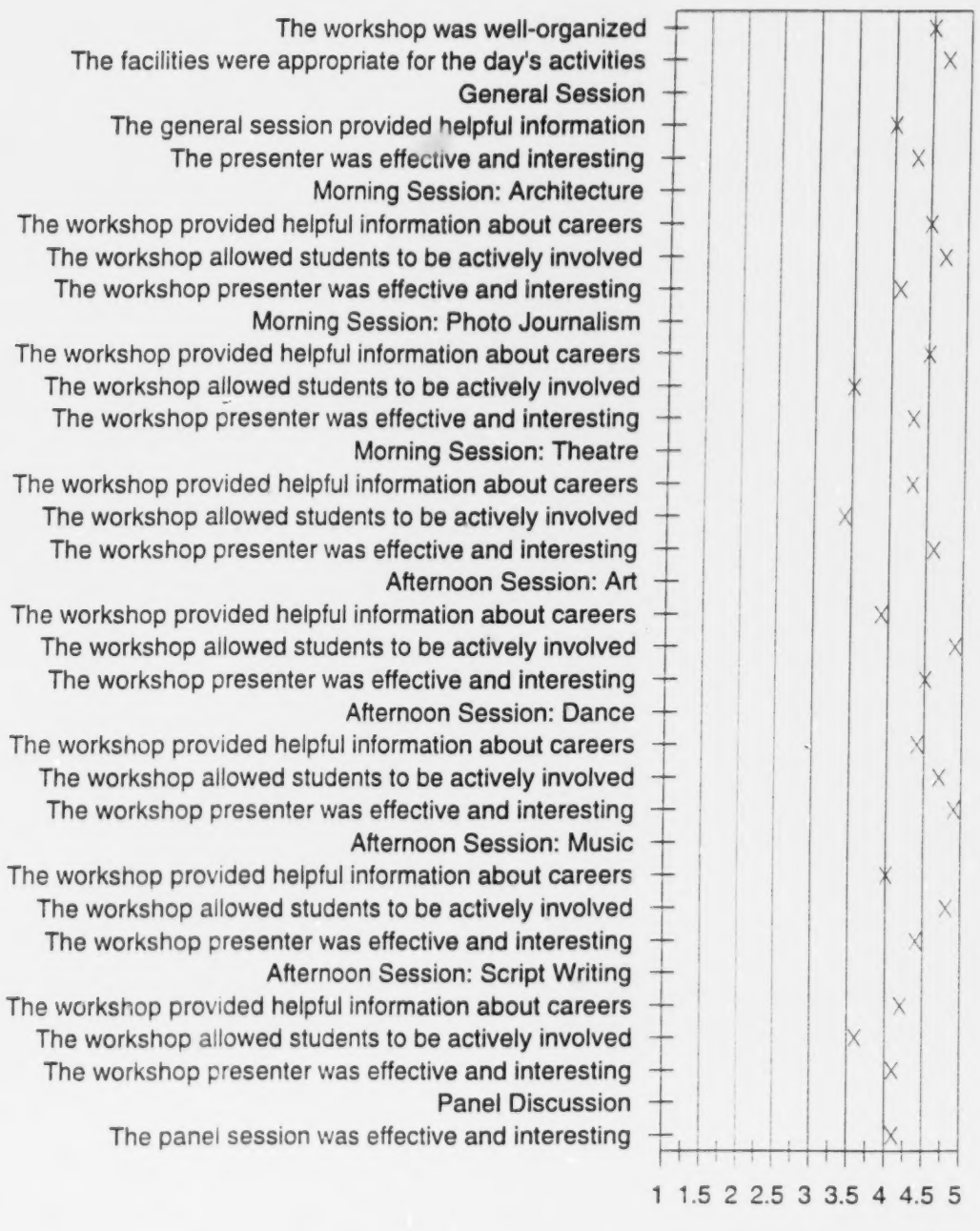
recommended regarding the grouping of students. Specifically, participants suggested dividing the students by age (i.e., middle school separate from high school) so that the presentations could be better tailored to the concerns of particular age groups.

The final strand of the *1997 Focusing on the Future* workshops considered careers in science and mathematics. Again, student receptivity was high regarding the content and presentations of the general session, their specific areas of interest, and the panel discussion (see attached chart). Students were especially inspired by the enthusiasm of presenters. "It was fun--and I really stress fun--, and very interesting....he tied everything into life. He is happy and he shows it. I want to be like him when I grow up." The panel "gave me perspective--it was funny, inspirational, and informative." Suggestions pointed consistently to the need for more sessions, and more time for individual interaction with presenters. Utilizing college students pursuing particular career areas was also suggested.

Student Evaluations, 1997

Focusing on the Future: The Arts

Rating Scale: 1 = not at all; 3 = moderately; 5 = to a great extent


The workshop was well-organized
The facilities were appropriate for the day's activities
General Session
The general session provided helpful information
The presenter was effective and interesting
Morning Session: Architecture
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Morning Session: Photo Journalism
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Morning Session: Theatre
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Afternoon Session: Art
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Afternoon Session: Dance
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Afternoon Session: Music
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Afternoon Session: Script Writing
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Panel Discussion
The panel session was effective and interesting
1 1.5 2 2.5 3 3.5 4 4.5 5

Student Evaluations, 1997

Focusing on the Future: Human/Soc.Sci.

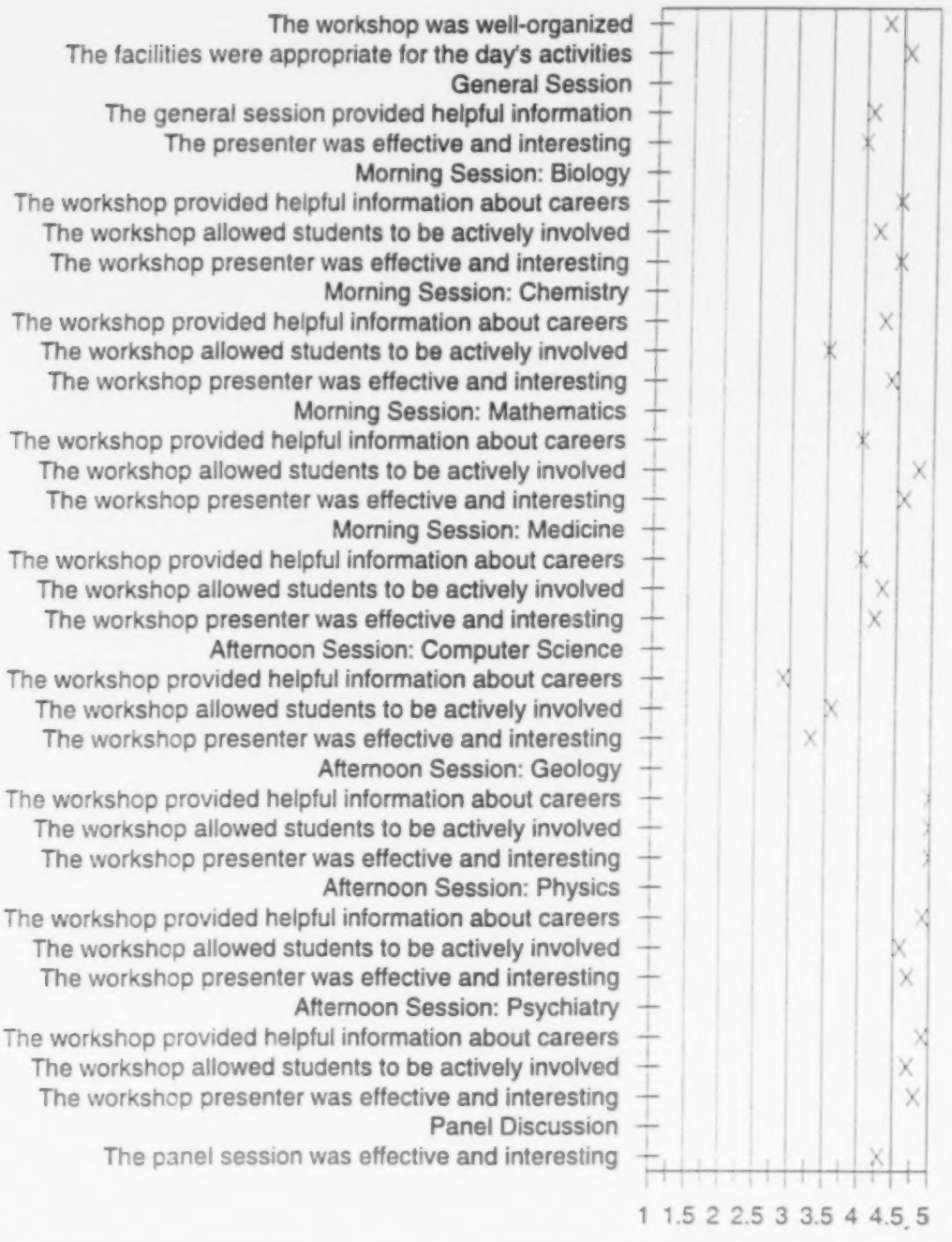
Rating Scale: 1 = not at all; 3 = moderately; 5 = to a great extent

The workshop was well-organized
The facilities were appropriate for the day's activities
General Session
The general session provided helpful information
The presenter was effective and interesting
Morning Session: Economics
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Morning Session: English
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Morning Session: Foreign Languages
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Morning Session: Government
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Afternoon Session: History-Related
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Afternoon Session: International
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Afternoon Session: Psychology-Related
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Panel Discussion
The panel session was effective and interesting
1 1.5 2 2.5 3 3.5 4 4.5 5

Student Evaluations, 1997

Focusing on the Future: Science/Math

Rating Scale: 1 = not at all; 3 = moderately; 5 = to a great extent


The workshop was well-organized
The facilities were appropriate for the day's activities
General Session
The general session provided helpful information
The presenter was effective and interesting
Morning Session: Biology
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Morning Session: Chemistry
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Morning Session: Mathematics
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Morning Session: Medicine
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Afternoon Session: Computer Science
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Afternoon Session: Geology
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Afternoon Session: Physics
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Afternoon Session: Psychiatry
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Panel Discussion
The panel session was effective and interesting
1 1.5 2 2.5 3 3.5 4 4.5 5

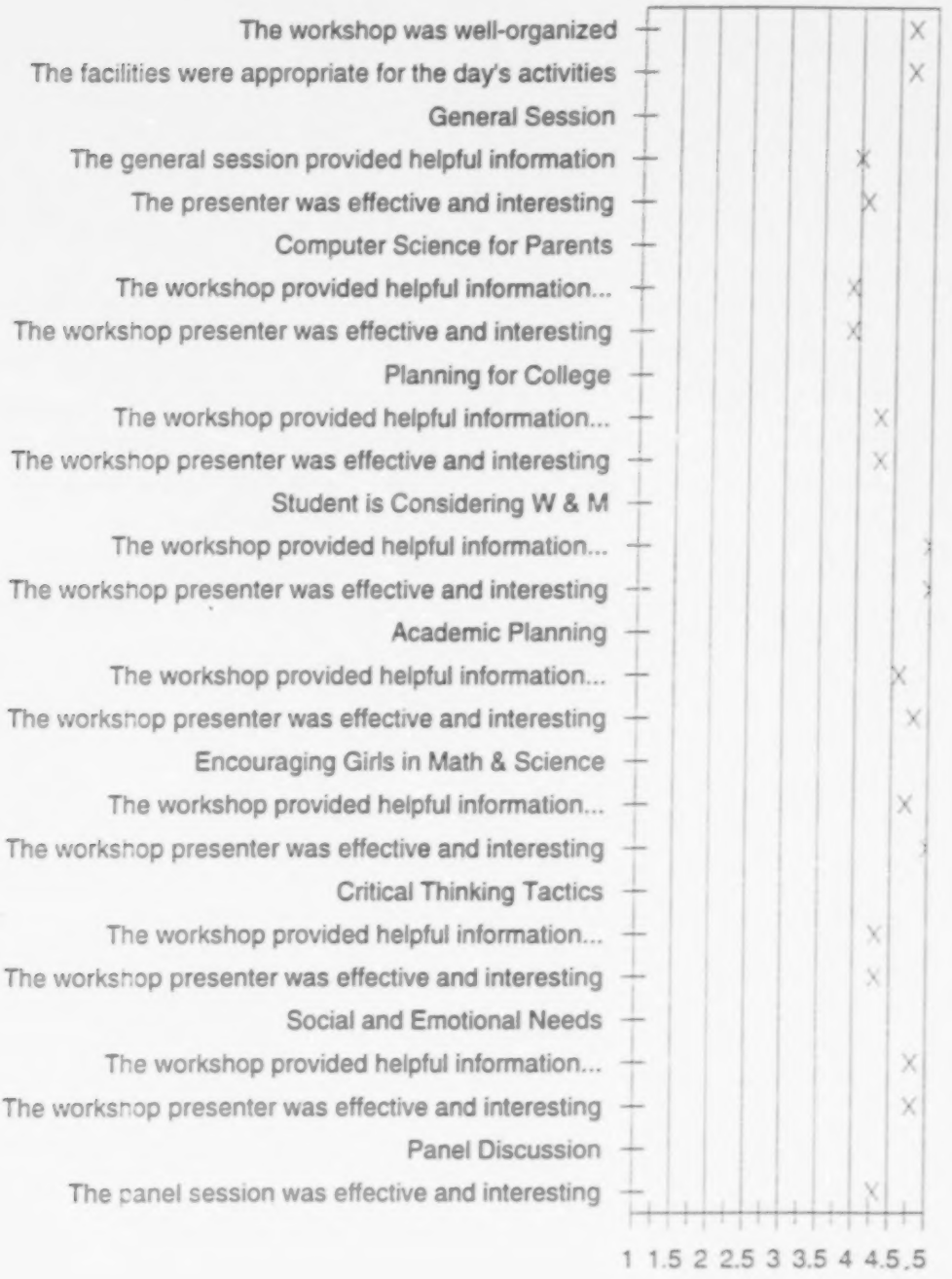
Parent Evaluations of Arts; Humanities; and Science and Mathematics Strands

Parents participating in the *Focusing on the Future* workshops exhibited a high level of receptivity to the sessions they attended (see attached chart). They found the program well-organized and appropriate, with useful content and effective presentations. Sessions on the Social and Emotional Needs of the Gifted, Academic Planning, Encouraging Girls in Math and Science, and Considering William & Mary were rated especially high. Parents commented that they "went away with tons of helpful information that was useful for planning in the future." Many participants stressed the valuable insights that resulted, mentioning that presentations provided a "good blend of technical/practical information and personal anecdotes." Suggestions were similar to those of student participants. They, again, focused on improving the logistics of food, as well as on the need for more sessions better targeted to the different ages of the students.

Parent Program Evaluations, 1997

Focusing on the Future

Rating Scale: 1 = not at all; 3 = moderately; 5 = to a great extent


The workshop was well-organized
The facilities were appropriate for the day's activities
General Session
The general session provided helpful information
The presenter was effective and interesting
Computer Science for Parents
The workshop provided helpful information...
The workshop presenter was effective and interesting
Planning for College
The workshop provided helpful information...
The workshop presenter was effective and interesting
Student is Considering W & M
The workshop provided helpful information...
The workshop presenter was effective and interesting
Academic Planning
The workshop provided helpful information...
The workshop presenter was effective and interesting
Encouraging Girls in Math & Science
The workshop provided helpful information...
The workshop presenter was effective and interesting
Critical Thinking Tactics
The workshop provided helpful information...
The workshop presenter was effective and interesting
Social and Emotional Needs
The workshop provided helpful information...
The workshop presenter was effective and interesting
Panel Discussion
The panel session was effective and interesting
1 1.5 2 2.5 3 3.5 4 4.5 5

Appendix G

1998 Program Evaluation Summaries

Analysis of 1998 Evaluations

Student Evaluations

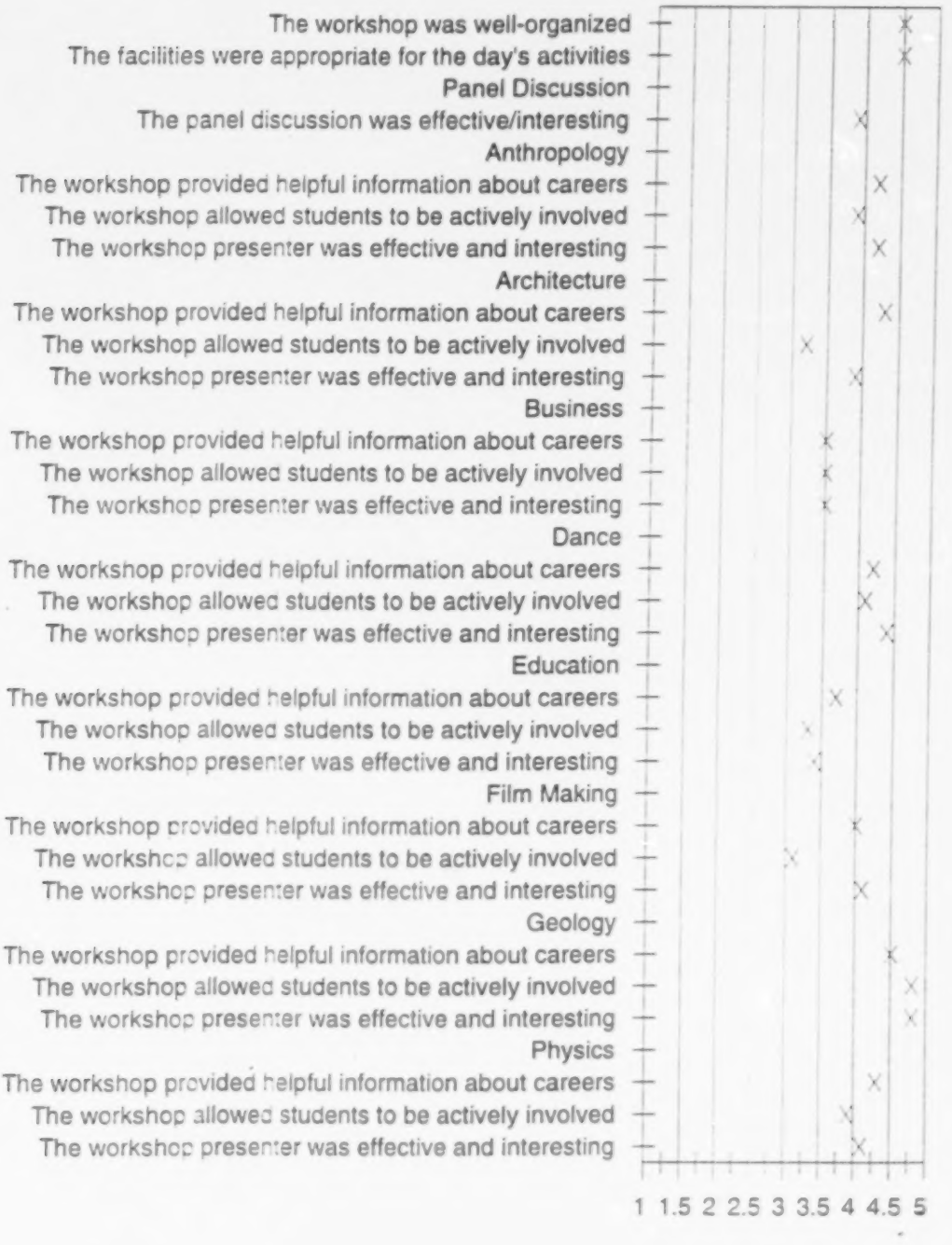
Similar to those attending in 1997, students participating in the *1998 Focusing on the Future: A Career and Academic Planning Experience for High-Ability Students in Grades 6-12 and Their Parents* showed a high level of receptivity to the content and presentations of the general session, their specific areas of interest, and the panel discussion (see attached chart). They were especially enthusiastic about those sessions that were interactive and that tied into the students' particular areas of interest. For example, students noted that the History session provided an "incredible integration of information and student feedback," and that the Theater session was "very interactive" and "helped me understand what they have to go through." Similarly, the Engineering session was deemed "informative and fun," and the Law session "really explored the entire expanse of legal careers" and "real cases came up, which made you think."

Suggestions for improvement focused on separating the sessions according to middle and high school age groups; providing longer time for lunch and more time to transition from session to session; providing more interactive, hands-on activities during the sessions; providing more choices and longer sessions; shortening the panel discussion, adding a session on medicine; and including a panel of college students.

Student Evaluations, 1998

Focusing on the Future

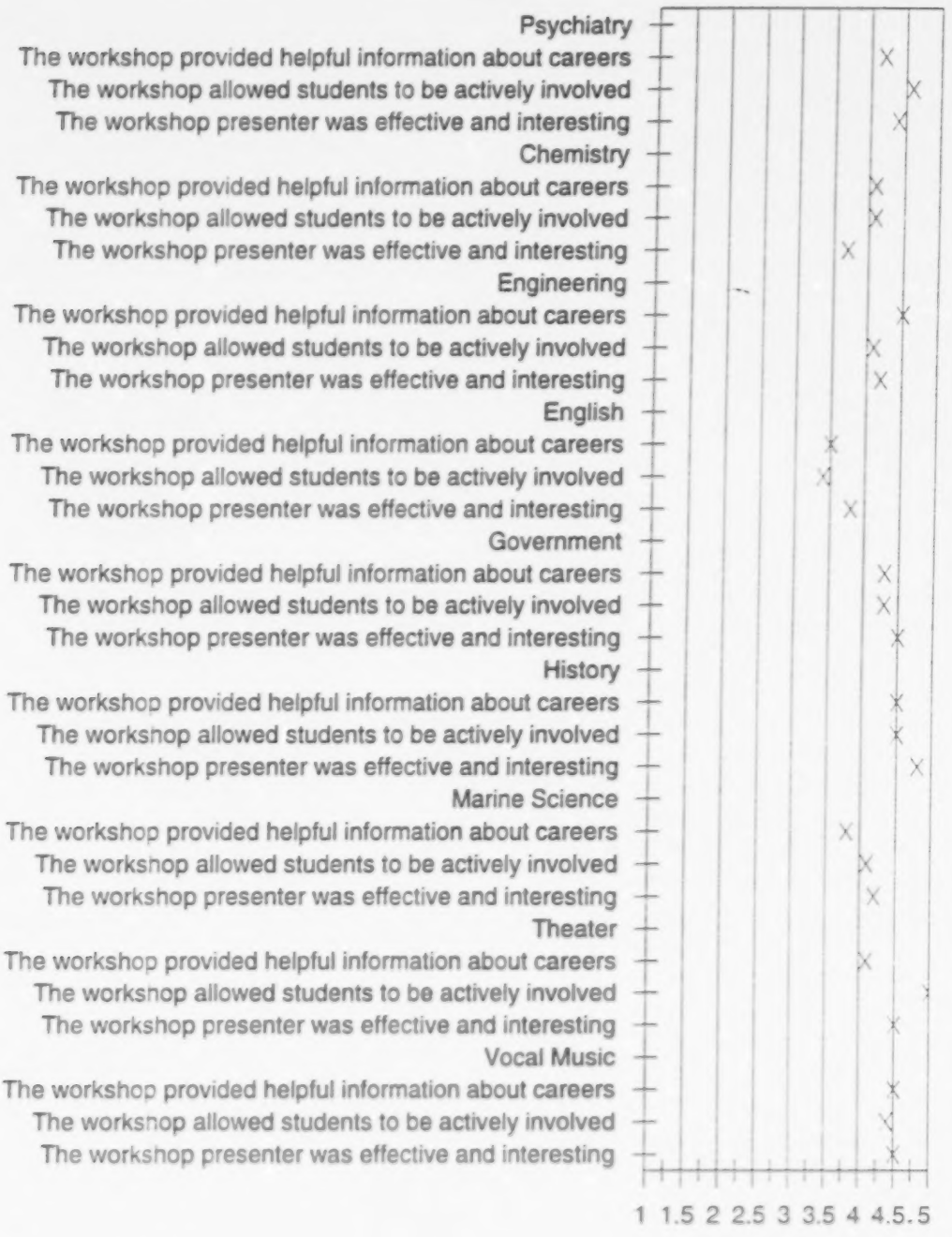
Rating Scale: 1 = not at all; 3 = moderately; 5 = to a great extent


The workshop was well-organized
The facilities were appropriate for the day's activities
Panel Discussion
The panel discussion was effective/interesting
Anthropology
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Architecture
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Business
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Dance
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Education
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Film Making
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Geology
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Physics
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
1 1.5 2 2.5 3 3.5 4 4.5 5

Student Evaluations, 1998

Focusing on the Future

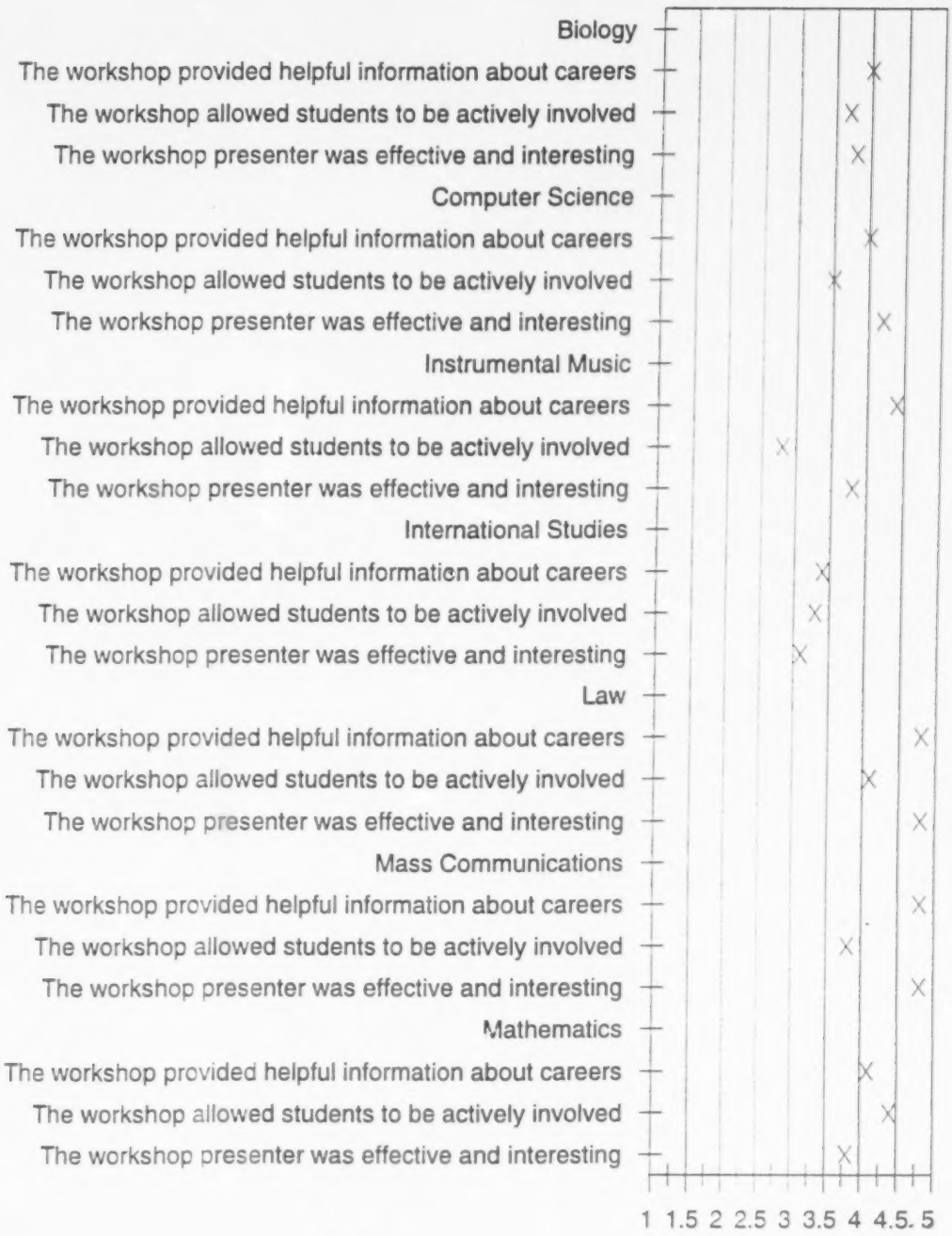
Rating Scale: 1 = not at all; 3 = moderately; 5 = to a great extent



Student Evaluations, 1998

Focusing on the Future

Rating Scale: 1 = not at all; 3 = moderately; 5 = to a great extent


Biology
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Computer Science
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Instrumental Music
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
International Studies
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Law
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Mass Communications
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
Mathematics
The workshop provided helpful information about careers
The workshop allowed students to be actively involved
The workshop presenter was effective and interesting
1 1.5 2 2.5 3 3.5 4 4.5 5

Parent Evaluations

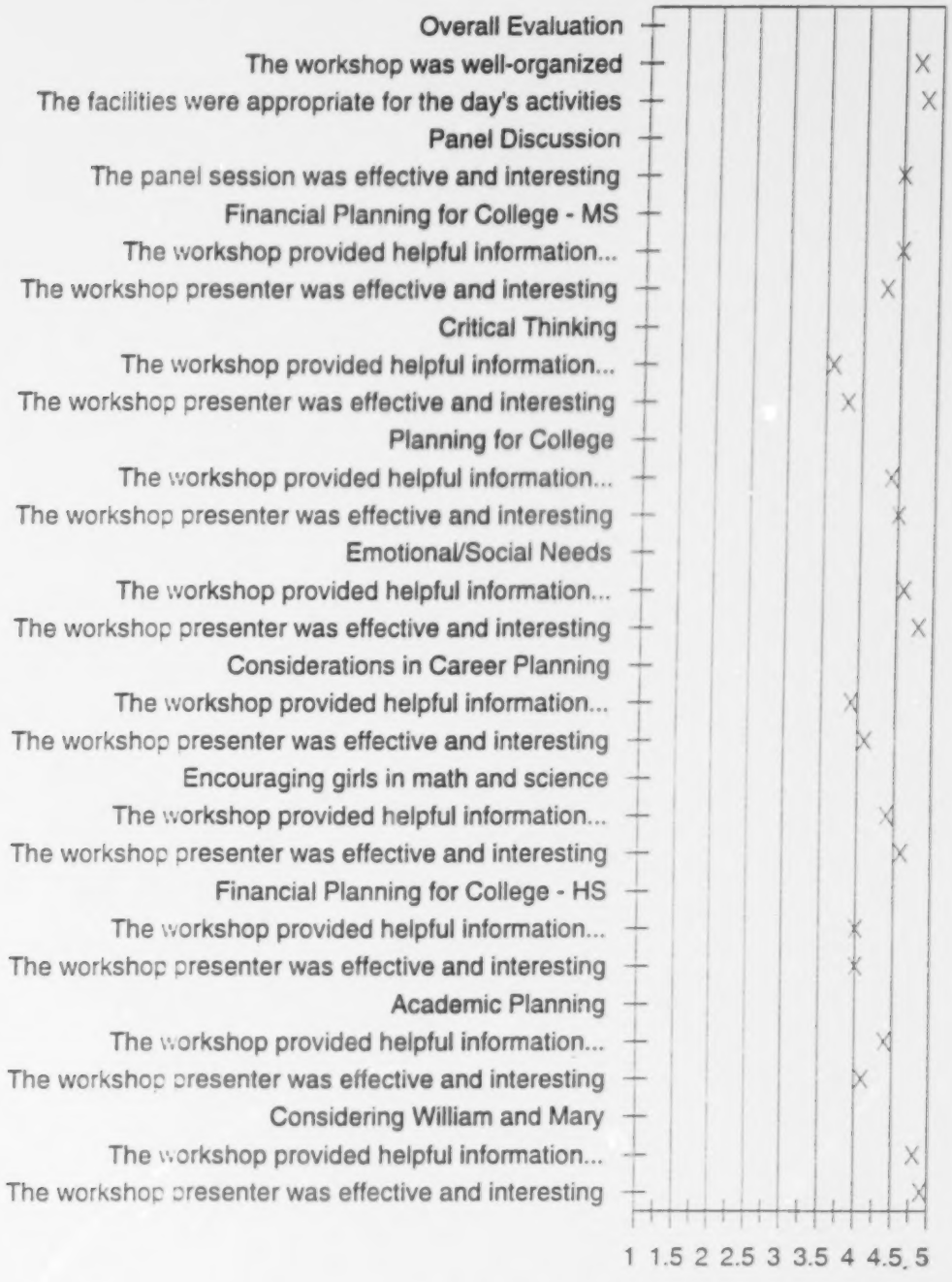
Parents participating in the *1998 Focusing on the Future* workshops also exhibited a high level of receptivity to the sessions they attended (see attached chart). They found the program well-organized and appropriate, with useful content and effective presentations. Sessions on the Social and Emotional Needs of the Gifted, Planning for College, Encouraging Girls in Math and Science, and Considering William & Mary were rated especially high. Parents commented, "The dynamism and enthusiasm of the initial panel members keyed the day," and that "More folks need to have this opportunity," which was "inspirational and informative." They noted that the Critical Thinking session "gave ideas of how to point their children in the right direction," and that College Planning provided "great info, was realistic, and spoke right to me and my children." Parents commented that Academic Planning for College gave "concrete steps to help my child plan for college," and that the Social-Emotional Needs presentation "was very down-to-earth and informative, " providing useful information so that "I understood my children's needs better and how I can help them."

Suggestions were somewhat similar to those of students in some areas. For instance, parents mentioned the need to provide more time for lunch, possibly keeping it in one building to facilitate sharing. They reiterated that the students needed more interactive sessions. Parents also noted the need for more question-and-answer time during their own sessions, and the need for handouts that matched the overheads being discussed. One parent suggested a forum for parents to share information based on their own experiences and also the inclusion of a panel of college students to gain their input. Again, the concern regarding the separation of middle and high school ages arose, and a session on gifted ADD/ADHD children was suggested. Logistically, many commented on the need for more advanced, detailed information on session content, confirmation of attendance, and directions.

Parent Program Evaluation, 1998

Focusing on the Future

Rating Scale: 1 = not at all; 3 = moderately; 5 = to a great extent


Overall Evaluation
The workshop was well-organized
The facilities were appropriate for the day's activities
Panel Discussion
The panel session was effective and interesting
Financial Planning for College - MS
The workshop provided helpful information...
The workshop presenter was effective and interesting
Critical Thinking
The workshop provided helpful information...
The workshop presenter was effective and interesting
Planning for College
The workshop provided helpful information...
The workshop presenter was effective and interesting
Emotional/Social Needs
The workshop provided helpful information...
The workshop presenter was effective and interesting
Considerations in Career Planning
The workshop provided helpful information...
The workshop presenter was effective and interesting
Encouraging girls in math and science
The workshop provided helpful information...
The workshop presenter was effective and interesting
Financial Planning for College - HS
The workshop provided helpful information...
The workshop presenter was effective and interesting
Academic Planning
The workshop provided helpful information...
The workshop presenter was effective and interesting
Considering William and Mary
The workshop provided helpful information...
The workshop presenter was effective and interesting
1 1.5 2 2.5 3 3.5 4 4.5 5

Appendix H

Ten Year Report for the Center for Gifted Education

The College of William and Mary
School of Education

Center for Gifted Education

A Decade of Excellence
1988-1997

The College of William and Mary
School of Education

Center for Gifted Education

. . . a learning community
for talent development

A Decade of Excellence
1988-1997

A Decade of Excellence
Issued March 8, 1998

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Jody and Layton Smith Professor of Education
Linda D. Avery
Report Coordination and Writing
Donna L. Poland
Artistic Direction
R. Martin Reardon
Graphic Design
Rob Davidson
Graphic Design, Manuscript Preparation and Layout

Photographs by Center staff and Ellen K. Rudolph, photographer

From the President

Timothy J. Sullivan
President,
The College of William and Mary

The College of William and Mary, as the premier public university committed to undergraduate teaching, has a long and rich tradition of fostering intellectual growth, leadership and talent development. Now in its fourth century, the College remains a place where students and faculty of extraordinary ability share the quiet satisfaction and the energizing exhilaration of learning.

It is fitting, therefore, that William and Mary's School of Education has a Center for Gifted Education devoted to the study of high ability learners and the development of exemplary programs to serve their needs. The occasion of the Center's tenth anniversary provides the opportunity to celebrate the significant contributions of the past as we move into a new decade of even greater prominence for the Center for Gifted Education.

Since its inception, the Center has sponsored a variety of community programs for pre-collegiate students, designed award-winning curricula for high ability learners and contributed through research to policy and program development in gifted education. Central to the Center's mission has been the graduate education of leaders for K-12 and university programs. Strong linkages with William and Mary's Faculty of Arts and Sciences and with practicing professionals in public schools have been a hallmark of the Center's programs and projects.

I would like particularly to acknowledge the leadership of Professor Joyce VanTassel-Baska. Her formidable energy and commitment to the Center have assured the attainment of ambitious goals over the past ten years. Working closely with Dean Virginia McLaughlin, numerous colleagues within the School of Education, and many talented staff members and graduate students, Professor VanTassel-Baska has developed the Center into a national resource for gifted education.

On this tenth anniversary, I hope that you will join me in recognizing the outstanding accomplishments of the Center for Gifted Education and applauding the individuals who have contributed to its success.

From the Dean of the School of Education

Virginia McLaughlin
Dean,
School of Education
The College of William and Mary

Ten years ago, the College of William and Mary made a bold commitment to the education of gifted students by hiring a scholar of national distinction and creating a new center for research and development in gifted education. The arrival of Dr. Joyce VanTassel-Baska in 1987 as Jody and Layton Smith Professor of the School of Education marked the beginning of an initiative that has impacted the College, the community, and the profession beyond expectations.

This tenth anniversary of the Center for Gifted Education provides an opportunity to reflect upon its growth over the past decade, to celebrate its many accomplishments, and to plan for a new era of leadership in the education of high ability learners. The Ten-Year Report highlights major milestones in the history of the Center: the creation of a master's degree program to prepare teachers of the gifted and a doctoral emphasis to prepare administrators and university faculty; the delivery of model programs for K-12 students; the development and dissemination of exemplary curriculum materials; and important contributions to research on effective programs and practices in gifted education.

The Center and its Director have received a number of awards over the years, but it has been especially gratifying to note the accolades bestowed in this anniversary year. The National Association for Gifted Children (NAGC) named Professor VanTassel-Baska Distinguished Scholar in recognition of her career-long contributions to scholarship in the field of gifted education. NAGC also gave two William and Mary doctoral students, Valerie Moye and Lou Loyd-Zannini, Promising Scholar Awards, and named another student, Kim Chandler, Passow Teacher of the Year. And two of the Center's curriculum units received Best in Class awards.

On behalf of the Faculty of the School of Education, I congratulate the Center for Gifted Education on its outstanding achievements over the past ten years. We remain committed to assuring a bright future for the Center, for in so doing we will continue to enhance the learning and development of both children and professionals with exceptional gifts and talents.

Virginia J. McLaughlin

Reflections from the Director

Over the past ten years, the Center for Gifted Education in the School of Education has enjoyed a rich history of service to state and national audiences of gifted children, their parents, and their schools. This anniversary report has been prepared to highlight the accomplishments of the Center in order to share the importance of its work in supporting the talent development process for able learners at all levels of the educational system. To this end, we are pleased to include our philosophy of gifted education, our mission statement and goals, and a summary of our achievements over the preceding decade. We also share something of ourselves as a community of learners committed to a common vision of excellence.

Dr. Joyce VanTassel-Baska
Director,
Center for Gifted Education
School of Education
The College of William and Mary

It is a fair assessment that individuals make institutions but also that institutions make individuals. The happy union that I have enjoyed on this campus as the Center has evolved attests to the larger university success we have enjoyed. I have personally and professionally been enriched by the quality of the faculty, staff, and students with whom I have collaborated on so many projects here at William and Mary over the last decade. From the science, mathematics, and computer science departments' investment in working with talented students during the six years of Governor's School programs, to the involvement of our Writing Center and speech communications department in our various language arts initiatives, to the work of faculty and graduate students in our Saturday programs, support for talent development on this campus has been strong and consistent.

Just as the mission of William and Mary is to educate our nation's leaders of tomorrow, so the Center for Gifted Education is committed to encouraging precollegiate talent toward a strong liberal arts education and to developing graduate students as educational leaders, sensitive to the need for high educational standards at K-12 levels and the will to activate an agenda for excellence on a broad scope. These shared values and traditions of leadership are central to the future of the Center and its on-going work as a part of the larger School of Education and College.

It is my sincere hope that the tremendous effort expended by so many people to create a Center of national and international renown will bear appropriate fruits in the lifetime satisfaction, success, and contribution of individual lives affected by those labors.

Center Philosophy of Gifted Education

It is the purpose of all education to develop each individual's potential for performance in societally valued areas to the highest level. It is the purpose of gifted education to help those learners with exceptional abilities to develop their potential to optimal levels.

The Center has made an enormous contribution to American education in the last ten years, particularly through its work in improving the curriculum available for students performing at the highest levels.

Pat O'Connell Ross
Director of Javits Gifted and Talented Education Program
United States Department of Education

Gifted and talented students are different from their chronological peers because of advanced cognitive development. This unique characteristic underscores distinctive learning needs which require differentiated educational opportunities commensurate with demonstrated ability. While gifted learners display some common characteristic behaviors, they are not a homogeneous group.

Although all students have special contributions to make to society, and deserve equal access to educational opportunity, not everyone is gifted and talented. Even if schools could accommodate a general model of talent development for all children, a qualitatively different kind of instruction would still have to be provided for the most talented students, based on important differences in learning rate, depth, and reponsiveness to complexity.

Educators of the gifted need to cast a broad net to find gifted individuals within all populations of our society. Moreover, criteria for exceptional behavior in all domains of learning need to be appropriately delineated. The special province of gifted education is to serve those students functioning in the superior range in any given domain.

Appropriate education of the gifted learner is a right, not a privilege. The central mission of education for the gifted is to serve children and young adults who evidence advanced development in one or more areas of positive human endeavor discernible through existing methods of instrumentation and served through specific areas of study that match their aptitude. A secondary mission of the education for the gifted is to promote the talent development of all learners, activated through opportunities to test the applications of procedures, techniques, and strategies found effective with gifted populations.

For children and youth who are intellectually gifted, a comprehensive well-articulated program from preschool through graduate school is most appropriate. For children and youth with specialized talents, a program

of study that provides for their area(s) of strength is most appropriate. For students from disadvantaged circumstances, a comprehensive program of study that addresses both strengths and weaknesses is warranted. No single service delivery system is appropriate for all gifted learners.

Educators of gifted learners should be concerned with and promote the development of cognitive, aesthetic, social, and emotional aptitudes of these learners to the greatest extent possible. Moreover, educators for the gifted should help students understand the structure of the disciplines as the accepted organization of knowledge, the processes by which new knowledge is generated, and their role in negotiating that process. The concept of optimal match should guide decision-making on curriculum intervention.

Curriculum for the gifted learner needs to be tailored to respond to cognitive and affective differences in such students. Specific features of a differentiated curriculum should usually include: 1) opportunities for advanced content delivered at a pace, depth, and complexity level appropriate to individual needs, 2) opportunities for generative learning that allow students to engage in various approaches to critical and creative thinking, problem-finding and problem-solving processes culminating in original work, and 3) opportunities for making epistemological connections within and across areas of knowledge using inquiry-based techniques. Ideally, a curriculum would be structured to integrate these types of opportunities for the student in the relevant area(s) of talent.

My multi-faceted experiences with the Center fund it to be a comprehensive educational enterprise established on sound philosophy and research principles.

Dr. Rena Subotnik
Professor
Hunter College

Mission Statement and Goals

The Center for Gifted Education is a learning community that values and fosters the talent development process of individuals over the life-span. It responds to their intellectual and socio-emotional needs in order to foster the development of the whole person. The Center nurtures exceptional ability in academic, moral and ethical, and aesthetic domains through interdisciplinary inquiry and excellence of instruction.

The graduate education program includes a Master of Education degree with a concentration of coursework in the education of the gifted and an Ed.D./Ph.D. degree with a concentration in gifted education within the Educational Policy, Planning, and Leadership program.

GOAL #1: To provide graduate education for individuals interested in teaching gifted students and assuming leadership positions in the field of gifted education.

The purpose of the Master's degree program is to provide candidates with an integrated advanced preparation program that links gifted education to general education methodology and practices. The courses in gifted education furnish the student with the knowledge and experiential base needed to provide appropriate educational services to gifted and talented students in schools.

The purpose of the doctoral program in Educational Policy, Planning, and Leadership with an emphasis in gifted education is to provide students with the knowledge and skills required to assume leadership roles in gifted education at local, state, and national levels. It is our intent to ensure that students graduating from this program have a core preparation that readies them to succeed in roles as diverse as administrators in national specialized schools for the gifted, coordinators of gifted programs in local school divisions, or faculty in a university setting.

William and Mary's graduate program in gifted education at the doctoral level is outstanding, offering both academic rigor and a climate of warmth and friendliness.

Dr. Miraca Gross
Professor
University of New South Wales, Sydney, Australia

GOAL #2: To provide a learning laboratory for precollegiate learners and those who facilitate their learning.

The Saturday/Summer commuter program for gifted learners offers enrichment opportunities for students entering preschool through grade 10. The program is not meant to supplant the regular school curriculum; rather, it recognizes the importance of allowing able youngsters to explore additional specialized areas of science, mathematics, and the humanities. Course activities are compatible with the expected achievement of talented students at specified grade and age levels. Behaviors fostered by the enrichment program include students' ability to: apply process skills used in individual fields of inquiry, recognize problems and approaches to problem-solving, understand and appreciate individual differences, and become self-directed learners. As an additional program service, the Center screens and tests students for entry into the program upon request and counsels parents regarding socio-emotional and school-based issues related to giftedness.

For six years the Center administered the Governor's School for the Gifted in Science, Mathematics, and Technology, a four-week residential program involving 200 gifted high school rising juniors and seniors from Virginia who had a special interest in particular fields of scientific inquiry. In tandem, it also administered the NASA-VIMS Internship program for 30-35 students talented in the sciences, a five-week residential program. Although the Center terminated its responsibility for that program in 1995, other new initiatives to support precollegiate talent have been successfully launched.

The Talent Search for Promising Student Authors began in 1997 for the purpose of identifying talented young writers and providing them an opportunity to interact with professional writers. Students in grades 4 - 12 from both public and private schools in Virginia participate and receive Center recognition annually.

The Center has given my graduate students and me an opportunity to work with talented third through twelfth graders and expose them to the joys of science.

Dr. Jerre Johnson
Chair of Geology Department
College of William and Mary

Also in 1997 the Center offered a series of workshops on career exploration for middle and high school students and their parents. Opportunities to dialogue with practicing professionals and university faculty across the fields of science, mathematics, the arts, the social sciences, and the humanities, were made available through panel and seminar presentations.

GOAL #3: To engage in research and development work that promotes effective learning within gifted and talented populations.

From the inception of the Center, efforts were made to engage in research and development activities that focused on linking exemplary content-based materials and instruction to gifted programs. A series of six grants from the State Council of Higher Education in Virginia have resulted in extensive work with teachers and schools in mathematics and science education, engaging faculty and staff in Arts and Sciences to work collaboratively with faculty in Education to accomplish desired ends.

The Center also operated two national curriculum development and dissemination projects funded over seven years through the Department of Education, Office of Education Research and Improvement (OERI). The major emphases of these projects were to create coherent curriculum frameworks and underlying units of study to serve as exemplary science and language arts models for classroom use with high ability learners. Crafted from the current research on learning and educational reform as well as from the principles of effective curriculum for gifted learners, the resulting work was pilot tested in Virginia classrooms and revised. National piloting and the resulting research on effectiveness led to the publication of the science units by Kendall-Hunt Publishers in the spring of 1997 and the planned publication of the language arts units during 1998.

The standards against which higher education usually holds itself accountable are research, service, and teaching. The Center has done outstanding work in all three of these areas over the past ten years.

Dr. Ken Seeley
Executive Director
Colorado Foundation
Denver, Colorado

Community outreach activities of the Center for Gifted Education have been frequent and diverse. In 1988, a statewide conference was held for over 300 educators on comprehensive curriculum options for gifted learners. A national policy conference on gifted education was held in 1989. National conferences and symposia on science and language arts were held from 1991-1995. An interdisciplinary conference on the development of the gifted held in 1990 brought faculty from psychology, philosophy, special education, and counseling together in a forum to discuss concepts of giftedness. Special programs for parents and area teachers have been held annually since the inception of the center. The linchpin of our current outreach effort is the National Curriculum Network Conference launched in 1996 and recurring annually. The purposes of this conference are to provide opportunities for educational exchange of researched exemplary practice in schools.

GOAL #4: To serve as a community resource for gifted students, their families, and educators through outreach programs and services.

My experience with the William and Mary curriculum suggests that it should be replicated nationally. The children come home and share their enthusiasm for it with their families.

The Honorable Nikki G. Setzler
State Senator and Chairman South Carolina Senate Education Committee

The dissemination of Center-developed curriculum materials and the instructional methodologies inherent in them has been a major emphasis of the center since 1989. Presentations of Center work have been made at state, national, and international conferences. Publications featuring the research and development efforts are on-going, with one book published by center staff and others in progress. A newsletter provides ideas for implementing exemplary curriculum approaches with high ability learners. This goal also encompasses new efforts to develop technological competence as a tool for communication with clients around the world through e-mail, the GiftedNet listserv, and a World Wide Web site.

GOAL #5: To disseminate innovative and exemplary methods and materials.

Center Accomplishments

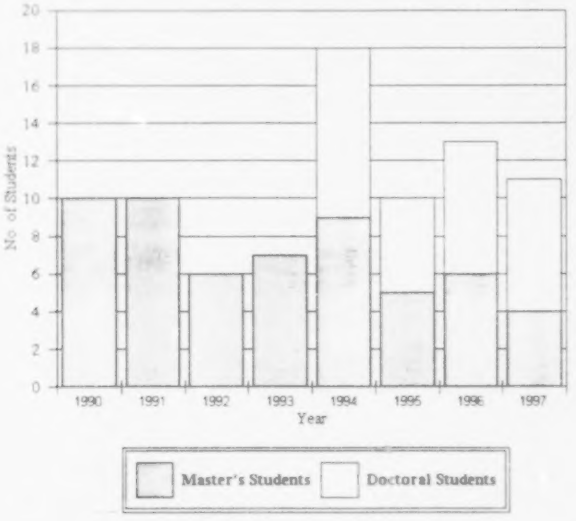
Graduate Programs

The MA.Ed. program in gifted education begun in 1990 and the Ed.D. and new Ph.D. in Educational Policy, Planning, and Leadership with an emphasis in gifted education, initiated in 1994, speak to one core element of the Center for Gifted Education activity. These programs currently attract full and part-time students from the state of Virginia as well as nationally and internationally. In addition, area teachers may avail themselves of courses in the graduate program to complete state endorsement requirements. In 1996 and 1997, four doctoral candidates, Claire Hughes, Lou Lloyd-Zannini, Valerie Moye, and William Orton received the National Association for Gifted Children outstanding doctoral student award, and Kim Chandler, a master's graduate and current doctoral student, received the Passow Teacher Scholarship for 1997. Three master's students have been honored by the School of Education for their outstanding work: Joy Baytops, Catherine Little, and Chwee Quek. Students from both programs have routinely been involved in national presentations and publications as a part of their graduate experience. Five master's theses from the program have been published in some form, two in national refereed journals.

The Master's program in gifted education at the College of William and Mary is a well integrated one that links an understanding of the unique needs of gifted learners with sound curriculum and program development strategies. I am personally grateful to Dr. Van Tassel-Baska for the intellectual nourishment she provided and for boosting my self-confidence as a learner and educator.

Chwee Geok Quek
Gifted Education Specialist,
Ministry of Education
Singapore

Degree Program Enrollment



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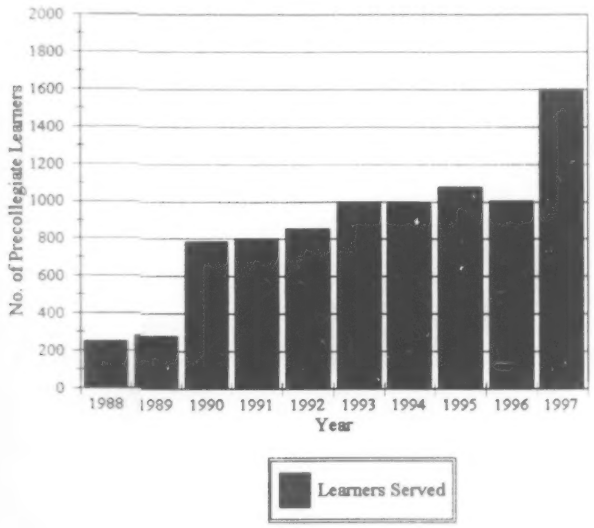
Precollegiate Learner Programs

The precollegiate learner programs have grown substantially over the ten years of Center operation. Beginning in 1988 with just 60 students in the first winter Saturday program, the program has now expanded to serve hundreds of students annually through both weekend and summer options. The Saturday and summer enrichment classes have allowed the Center to provide direct service to gifted students in a collaborative context that employs William and Mary faculty, students, and excellent area teachers in the teaching process. This program also provides a learning laboratory for clinical observation by both undergraduate and graduate students in psychology and education. For six years, the Governor's school programs provided service to senior high school precollegiate learners, serving over 230 students each year in a summer residential model. When the Governor's School contract ended, the center launched new initiatives through its Writing Talent Search and Career Planning events. In its first year of implementation (1996), the Writing Talent Search attracted nearly 400 entrants, a figure that has doubled in 1997. The career workshops held in 1997 attracted about 300 participants, made up of students and parents, and grew to 450 this year.

The SEP French class my nine-year-old daughter took focused on the culture as well as the language. What a good educational experience!

Sara Dydak
Parent
New Kent County School District

Precollegiate Learners Served



The Governor's School experience at William and Mary changed my perspective on physics which was brought to life in the classroom. I continue to read and think about those ideas!

Hans C. Ackerman
Rhodes Scholar and former Governor's School participant
Oxford, England

Curriculum Development and Dissemination

The Center has led the way in creating and rigorously evaluating truly differentiated curricula for gifted learners. This has greatly advanced the state-of-the-art in our field.

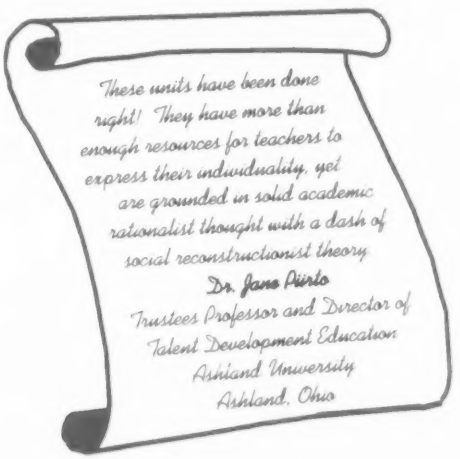
Dr. Paula Olszewski-Kubilius
Director, Center for Talent Development
Northwestern University
Evanston, Illinois

Curriculum development for high ability learners has been a hallmark of Center activities almost since its inception. Funding, primarily through the federal Javits program and the State Council of Higher Education in Virginia (SCHEV), has been targeted to the review and assessment of quality curriculum materials in science and mathematics as well as the development of model units of study in science, mathematics, and language arts. These units are based on the Integrated Curriculum Model (ICM) which combines high-level content, learning processes and products, and overarching concepts (VanTassel-Baska, 1988) . First piloted in selected schools, then field-tested nationally in sites volunteering from our roster of National Network schools, these units have provided data which allowed the Center to evaluate teacher perceptions and student learning gains. Research on the effectiveness of these units has been presented at state and national conferences and published in national journals in the field.

The language arts units, organized thematically, provide a powerful teaching sequence and systematic approach designed to help gifted learners refine critical elements of thought and access advanced concepts.

Dr. Judith Kelly
Educational Consultant
Texas Education Service Center, Region XI
Dallas, Texas

Two of the units received national recognition as exemplary curriculum for the gifted by the National Association of Gifted Children. These units, *Autobiographies* and *Acid Acid Everywhere* are considered representative of the caliber of work present in all the units. The science units have recently been published by Kendall Hunt Publishers, and the language arts units are currently being readied for publication. Gifted program coordinators and teachers in districts as diverse as Greenwich, Connecticut, Montgomery County, Maryland, and Granite City, Utah have applauded this work and incorporated it across the K - 8 levels of their gifted programs.


These units have been done right! They have more than enough resources for teachers to express their individuality, yet are grounded in solid academic rationalist thought with a dash of social reconstructionist theory.
Dr. Jane Piirto
Trustees Professor and Director of Talent Development Education
Ashland University
Ashland, Ohio

The rigor and challenge of the William and Mary curriculum exemplifies how Hampton is striving to meet the needs of high ability students.
Dr. Billy Connaday
Superintendent
Hampton City Schools
Hampton, Virginia

The Center has been responsible for the distribution of curriculum units and materials over most of its history. In all, districts in 43 states use the curriculum materials.

The science and language arts units are also being used internationally in 11 different countries. These include Brazil, seven provinces in Canada, Pakistan, Peru, Singapore, Belgium, Mexico, Jordan, Australia, the Philippines, and the Netherlands.

Parents, teachers, administrators, and members of the board acknowledge that our revised program for gifted students has reached a new level of excellence, thanks to the intellectually rigorous William and Mary curriculum and staff development.

Dr. Karen Lang
Deputy Superintendent
Greenwich School District
Greenwich, Connecticut

Teacher Education and Networking with Schools

In order for the work of the Center to be incorporated into elementary and secondary classrooms, there is much time and energy directed toward teacher education for curriculum implementation. In addition, many public and private schools contact the Center every year for help with their own professional development activities. Over the years the Center has been able to increase its responsiveness to such requests as well as sponsor national conferences that have helped educators grapple with the

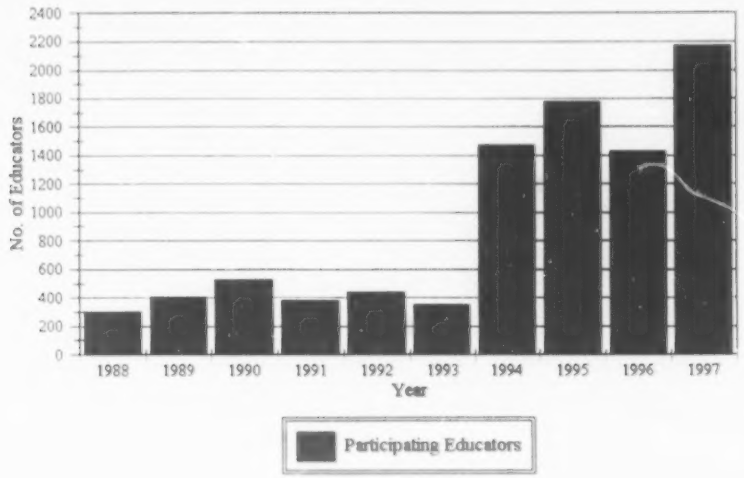
complexities of program development and improvement. Our emphases on both curriculum development and program evaluation are often linked in our efforts to impact the quality of the talent development process.

The Center truly culled the best of the research to create outstanding materials for gifted learners, solidly grounded yet so accessible to teachers.

Ray Myrtle
Principal, Somerset Elementary
Montgomery County, Maryland

In addition to our Annual National Curriculum Network Conference, the Center for Gifted Education also tailors curriculum inservice to the needs of local districts requesting technical assistance. Over the past ten years Center staff have worked with numerous districts across dozens of states to help teachers understand and implement differentiated instruction for gifted and talented learners.

Educators Participating in Center Events (State and National)



The Center has greatly contributed to state services for the gifted by making exemplary curriculum materials accessible to educators, students, and their families . . . with many benefiting from their invaluable programs.

Joy L. Baytops
Specialist, Programs for the Gifted
Virginia Department of Education
Richmond, Virginia

Other networking approaches are in print and electronic modes. A newsletter entitled *Systems*, which provides a forum on curriculum and program issues in gifted education, is a primary communication link from the Center to school practitioners. Moreover, technological communication systems include two listservs to facilitate discussion and dialogue with the field. The Center also maintains its own Web Page at http://www.wm.edu/education/gifted.html

Research and Evaluation

As part of its ongoing commitment to research and scholarship, the Center for Gifted Education has continued to engage in applied research and program evaluation initiatives which have contributed to the expansion of the research literature base in gifted education. The centerpiece of our research efforts has focused on the evaluation of the William and Mary curriculum units and their effectiveness in the classroom. In collaboration with several of our colleagues in the School of Education, in particular Dr. George Bass, Dr. Jill Burruss, and Dr. Roger Ries, the Center orchestrated a comprehensive curriculum evaluation which examined teacher decision-making regarding implementation, teacher assessment practices, and systemic impact across classrooms and buildings. The heart of our work in this area has investigated the impact of the units on student achievement. Since very few curriculum developers document the effectiveness of their work on student learning, this research makes an important contribution to the field.

The Center is a model for how we can make a difference in education.

Dr. Camilla Benbow
Dean, School of Education
Iowa State University
Ames, Iowa

The Center has also worked with a variety of state and local programs to collect and analyze data which are used for decision making. A joint contract with the Consortium of Coordinators for the gifted in Ohio and the Ohio Association for Gifted Children resulted in a statewide evaluation used for policy and program development at state and local levels. A similar, but less extensive study was done with coordinators in the state of Florida in 1995.

It is probably an understatement to say how much Ohio's coordinators, teachers, and parents of the gifted appreciate all that you and your graduate students have done for us during the past two years on our statewide evaluation effort.

Ann Johnson
Past President
Consortium of Ohio Coordinators for the Gifted

Major local evaluation projects have also been carried out through the Center over the past five years. A multi-year contract with Greenwich School District staff in Connecticut resulted in major changes in their approach to service delivery in grades K - 8 and the evolution of a curricular framework that integrated scope and sequence across grade levels. Other recent initiatives include work with the South Carolina Consortium of Gifted Education, Montgomery County Schools (Maryland), Chesterfield County, and Falls Church Schools in Virginia.

Other research efforts have examined specific student and program variables. In the early 1990's, the Center produced a national study entitled Gifted Youth at Risk (VanTassel-Baska, Patton, and Prillaman, 1991) which focused attention on the culturally diverse and economically disadvantaged gifted

learner. In 1996, a collaborative research effort with other Virginia universities resulted in a published study of exemplary middle school programs.

An important part of our research agenda is to share insights with the larger gifted community. Thus we have engaged in an active and ongoing program of dissemination of our findings at national and state conferences and through peer review journal publications.

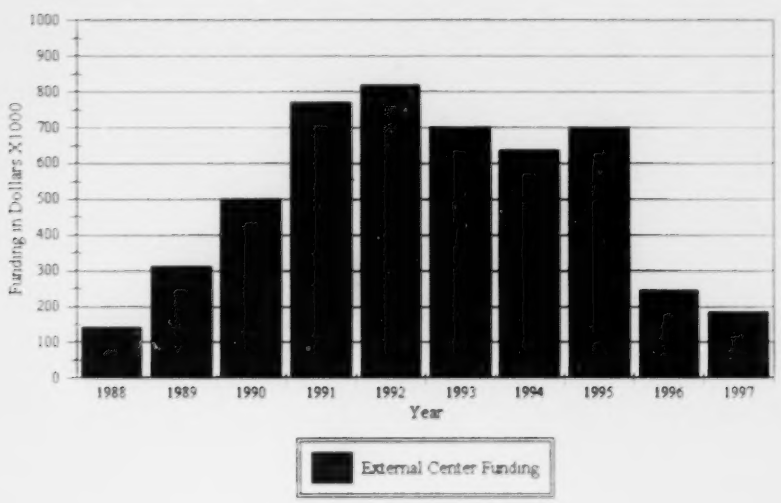
Center Development

Throughout its ten year existence, the Center has proven itself to be remarkably successful in attracting external funding for research and development projects from both public and private agencies. Each year different funding sources have been mobilized to support and extend Center activities. Since it has always been the Center's view that giftedness may best be understood within an interdisciplinary context, development initiatives have frequently been a collaborative process directly involving other members of the School of Education and Arts and Science faculty.

The work being done at the Center at William and Mary contributes greatly to the field under the guidance of one of the world's leading authorities on curricula for gifted children.

Dr. Julian Stanley
Professor Emeritus of Psychology
The Johns Hopkins University
Baltimore, Maryland

Center Funding Profile



Financial Sponsors

Center for Gifted Education financial sponsors through grants, contracts, and donations include:

Aetna Foundation
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Bureau of Indian Affairs, United States Department of Education
Chesapeake Public Schools, Virginia
Chesterfield County Schools, Virginia
Falls Church City Schools, Virginia
Florida State Department of Education
Fredericksburg Public Schools, Virginia
Greenwich Public Schools, Connecticut
Hazard Public Schools, Kentucky
The Howard Hughes Medical Institute
Lancaster County Schools, Virginia
Lexington #2 School District, Lexington, South Carolina
Montgomery County Schools, Maryland
New Kent County Schools, Virginia
Norfolk Schools, Virginia
Noyce Foundation
Ohio Association of Gifted Children
Ohio Consortium of Coordinators for the Gifted
Richardson Foundation
South Carolina Consortium on the Gifted and Talented
State Council of Higher Education in Virginia
United States Department of Education, Office of Educational Research and Improvement (OERI), Javits Program
Virginia Beach Schools, Virginia
Virginia State Archives
Virginia State Department of Education
World Council on the Gifted

The Opportunities Ahead

This report has focused on the major accomplishments of the Center over the past ten years, but it is also important to speak to the opportunities which lie ahead. Advocacy for appropriate programs for gifted and talented students at all levels of the educational spectrum requires constant vigilance. While working closely with the general education community to elevate standards for all students, we must also provide models that address the advanced skills and aptitudes of our most able learners.

The Center for Gifted Education at William and Mary has become a major force in the gifted education movement in the United States.

Dr. John Feldhusen
Kane Professor Emeritus
Purdue University
West Lafayette, Indiana

Although there are 25 centers across the country directed to various initiatives in this field, our Center has chosen to emphasize curriculum development and implementation as the primary vehicle for strengthening quality programs. It is through the integration of content, instructional strategy, and ongoing assessment that the pedagogy of exemplary practice emerges. Our work in the language arts and sciences offers a template for expansion into additional subject matter areas.

It is through our precollegiate enrichment programs that we respond directly to the educational needs of gifted and talented children. These experiences provide a learning laboratory that supports teacher training, curriculum field-testing, and staff development. These services supplement the educational offerings of local schools and facilitate our connection to the local community. We need to continue providing such opportunities for area youth.

The Center ... has become a recognized source of quality products in gifted education over the past decade. This is largely because of the foresight to find significant problems to address and handling them with intelligence and good judgment.

Dr. James J. Gallagher
Kenan Professor of Education
University of North Carolina at Chapel Hill

Our outreach efforts to the larger educational community to provide assistance in areas such as career planning, the nurturance of writing talent, and the education of teachers, parents, and administrators about the development of gifted learners need continued support. The growth of participation in these initiatives shows they are valued activities.

Our research agenda continues to evolve. The Center has accumulated a storehouse of data which are targeted for analysis as part of the research plan for the next five years. These research initiatives will inform us about the cumulative effects of exposure to the William and Mary curriculum as well as its impact with disadvantaged and other special populations.

Perhaps most importantly, we must continue to recruit high quality graduate students committed to the field of gifted education. It is their leadership that will guide the next generation of programs and services devoted to the talent development process.

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Center for Gifted Education Faculty and Staff

Joyce VanTassel-Baska, Ed.D., Jody and Layton Smith Professor of Education

Joyce VanTassel-Baska is the Jody and Layton Smith Professor of Education at the College of William and Mary where she initiated and serves as the director of the Center for Gifted Education. Formerly she initiated and directed the Center for Talent Development at Northwestern University. Joyce has also served as the state director of gifted programs in Illinois, a regional director, a local coordinator of gifted programs, and a teacher of gifted high school students. Her major research interests are in the talent development process and effective curricular interventions with the gifted. She is the author of several books and has authored over 200 other publications on gifted education. She is the editor of Gifted and Talented International, a world-wide refereed journal in gifted education. She received the Distinguished Scholar Award in 1997 from the National Association of Gifted Children and the Outstanding Faculty Award from the State Council of Higher Education in Virginia in 1993. Personal interests include reading, photography, and film viewing. She is also the mother of an adolescent daughter. She holds an Ed.D. degree from the University of Toledo.

Jill D. Burruss, Ph.D., Assistant Professor in Education

Jill Burruss's faculty assignment at the College is split between Curriculum and Instruction (courses in the Master's in Gifted Program) and SPACE (School Psychology, Counselor Education and Foundations) where she teaches courses in research, learning theory and development. Her research interests are as diverse as her teaching assignment with current projects in qualitative research methods, socio-emotional issues of gifted adolescents, and science education/ curricula for gifted students. She was recently awarded a research grant from the College to explore the transitioning of gifted adolescents from high school to college. She also serves on numerous dissertation committees within all areas of the School of Education. Jill sits on the State Advisory Committee for the Gifted and is one of two college liaisons to the Virginia Association for the Education of the Gifted. Her Master's degree from Lehigh University is in science education, and her Ph.D. from the University of Denver is in Educational Psychology: Gifted and Talented Education. Personal interests include horticulture, antiques, weaving, and reading.

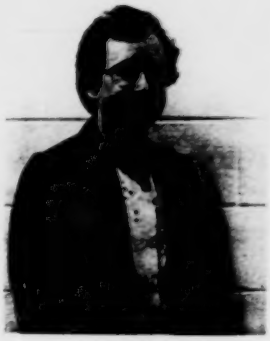
Rob Davidson, Program Support Technician

Rob Davidson serves as the program support technician of the Center and manages the budgets of all externally funded projects. He also serves as the registrar for all precollegiate programs. Rob is responsible for typing, editing, and layout of all Center projects in addition to handling Center correspondence and manuscripts. He also is the resident technology consultant and assists in training Center staff on equipment and software advancements. Rob holds a B.M. degree from Truman State University and is the Music Director for a local church. He is a newlywed whose wife, Kristi is a law student at the College of William and Mary.

Linda Neal Boyce, Curriculum Consultant

Linda Neal Boyce, whose association with the Center began as a co-coordinator of the Libraries Link Learning Project, worked as a curriculum reviewer and materials specialist for the science curriculum units and as a consultant for the language arts curriculum units. Her most recent contribution to the Center is the development of *A Guide to Teaching Research Skills and Strategies for Grades 4-12.* She has recently assumed the position of Secondary Enrichment and Resource Specialist for Jamestown High School in Williamsburg-James City County. She has served as a librarian in both school and public library settings, consulted for library systems, and taught college-level courses in children's literature and library reference services. She has published articles and made presentations to state and national audiences on a wide range of educational issues. Ms. Boyce holds an M.L.S. degree from Florida State University. She is the mother of two children.

Dana Johnson, Curriculum Consultant



Dana Johnson has been associated with the Center since 1988. She has worked as a curriculum reviewer and developer on science, mathematics, and language arts projects. She was manager of the Language Arts Curriculum Project. Ms. Johnson is an editor of *Developing Verbal Talent*, which resulted from the work of the language arts project. She is a co-author with Dr. Beverly Sher on *Models: A Study of Animal Populations* and *A Resource Guide to Mathematics Curriculum Materials for High Ability Learners in Grades K-8*. Ms. Johnson teaches as an adjunct faculty member in the School of Education and the mathematics department at the College. She also has taught in the Center's Saturday and Summer Enrichment Program and has taught mathematics at the middle school and high school. Ms. Johnson received an M.Ed. degree from the University of Maryland. She is the mother of two daughters.

Valerie Moye, Coordinator of Special Projects

Valerie Moye coordinates the writing talent search and career planning conferences for the center. She also serves as an adjunct professor teaching courses on curriculum for gifted students and leadership in staff development. Valerie is a doctoral candidate for a Ph.D. in Educational Policy, Planning, and Leadership. In 1997 she received the Outstanding Doctoral Student Award from the National Association for Gifted Children. Her research focus is on determining conditions that foster transfer of professional development experiences to classroom practice, and she has published a monograph on her theoretical model. Valerie has served as a classroom and resource teacher, district gifted program coordinator, assistant principal, and gifted program specialist for the Virginia Department of Education. Valerie holds an Ed.S. degree from the College of William and Mary. She is the mother of two children.

Center for Gifted Education Graduate Assistants

Current Center for Gifted Education Graduate Student Profiles

Linda D. Avery, a doctoral student, assists in much of the program evaluation work contracted by local and state educational agencies and serves as assistant editor of Gifted and Talented International. She received her B.A. from Baldwin-Wallace College and her M.A. from Michigan State University. She enjoys policy, planning, and evaluation activities and has interests in the link between cognition and affect, policy development, and the change-management process.

Elissa Brown, a doctoral student and adjunct faculty for the College of William and Mary, directs the Saturday and Summer Enrichment Program and co-chairs the National Curriculum Network Conference held annually. She received her B.S.Ed. from the University of Georgia and her M.A. from Western Carolina University. Her interests include stengthening the linkages among policy, practice, and professional development. She is the mother of three children.

Christine L. Hill, a doctoral student, co-directs the Saturday and Summer Enrichment Program and is involved in the language arts curriculum revision. She received her B.S. from Iowa State University and her M.A. from the University of Connecticut. She was one of the first recipients of the NAGC Harry A. Passow Scholarship awards. Her interests include teacher training, female talent development, and curriculum development.

Catherine Little, a doctoral student, coordinates the dissemination and piloting of the language arts curriculum materials and serves as assistant editor of Gifted and Talented International. Both her B.A. and M.A.Ed. degrees were conferred by the College of William and Mary. She received the School of Education Award for Excellence for her Master's work in gifted education and continues to pursue her special interests in early childhood talent development.

Kerri Murphy is responsible for the psychological testing and assessment of children to determine eligibility for enrollment in the Saturday and Summer Enrichment Program. She received her B.A. from Brown University and her M.Ed. from the College of William and Mary. She is a full-time Ed.S. student in School Psychology, completing her internship year in the Norfolk Public School System. She recently announced her engagement to another William and Mary alumnus.

Donna Poland, a doctoral candidate, coordinates the data collection process for the curriculum units in science, edits the Systems Newsletter, manages the public relations plan, and is the resident artist for the Center. She received her M.Ed. from the College of William and Mary and was awarded the Galfo award for scholarship in science education in 1994. Her interests include the bridges between science and art curriculum and leadership development. She is the mother of two children.

R. Martin Reardon, a doctoral student from Brisbane, Australia, manages the Center's two listservs and its World Wide Web site. A Christian Brother on study leave, he taught for 27 years and filled a range of administrative positions before coming to the Center. His M.Ed. is from Queensland University of Technology, and his interests include implementation and administration of gifted education programs and cross-disciplinary perspectives in research.

Lisa Schenkel, a doctoral student, assists in the coordination of the Career Planning Program and the Writing Talent Search. She is also involved in the language arts curriculum revision and data collection activities. She received her B.A. degree from Bucknell University and her Master's in Teaching from the University of Virginia. Before coming to the Center, she taught English for seven years. Her interests include counseling and experiential education, and she enjoys the outdoors.

Center for Gifted Education Former Staff

Dr. Jane Bailey is Associate Professor of Education and department chair at Christopher Newport University. While at the Center, she directed the Saturday and Summer Enrichment Program and served as a language arts curriculum consultant and trainer.

Dr. Victoria B. Damiani is an Assistant Professor in School Psychology at Indiana University in Lancaster, Pennsylvania. At the Center, she used her extensive experience in counseling to develop and coordinate the provision of psychological services.

Katie Hammett Hall is a teacher of elementary gifted students in Greenwich School District in Connecticut. She served as the coordinator of special projects while she was completing her M.Ed.from the College of William and Mary.

Claire Hughes is the Gifted Program Coordinator for Hampton City Schools in Virginia and a doctoral candidate in the EPPL program . At the Center she directed the Saturday Enrichment Program and analyzed language arts curriculum test scores.

Dr. Shelagh Gallagher is an Assistant Professor of Education at the University of North Carolina at Charlotte. During her one year tenure at the Center, she coordinated the development of the problem-based science units.

Dr. Mary S. Landrum is currently Visiting Associate Professor at Kent State University. In 1997 she received the Early Leader Award from the National Association for Gifted Children. At the Center, she served as its Associate Director.

Dr. Donna Owen is the Associate Superintendent for Curriculum and Instruction in the Gloucester School District and an adjunct faculty member in the School of Education. For four years she directed the precollegiate programs, including the Governor's Schools.

Dr. Beverly T. Sher is an adjunct faculty member for the biology department at the College of William and Mary. Trained as a molecular biologist, she has served as the Center's primary science consultant for both curriculum development and teacher education.

Cathy (Prigge) Wrightson is a Program Assistant for Ocean Engineering at Florida Atlantic University in Boca Raton. She was the Administrative Assistant of the Center for eight years, managing budgets, preparing manuscripts, and handling registration.

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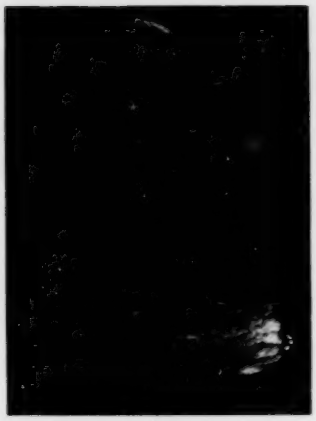

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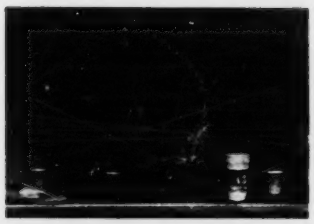

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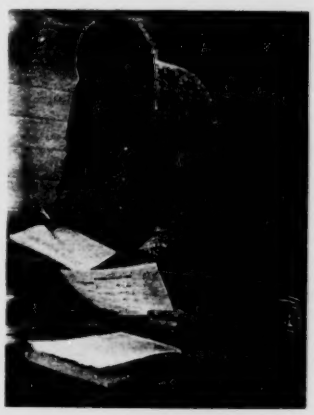

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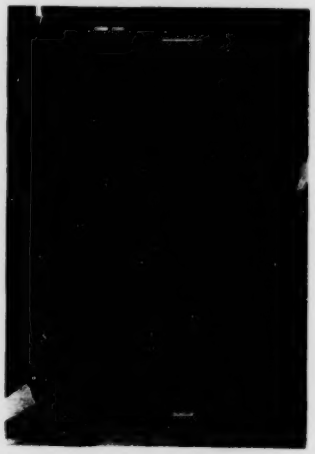

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Listing of Curriculum Materials and Guides Developed and Disseminated by the Center for Gifted Education

Science/Mathematics Publications

- *Conceptual Overview of Science Education for High Ability Learners*
- *Curriculum Assessment Guide*
- *Consumer's Guide to Science Curriculum*
- *Guide to Key Science Concepts*
- *Notes from a Scientist: Activities and Resources for Gifted Children*
- *Resource Guide to Mathematics Curriculum Materials for High Ability Learners in Grades K - 8*

Science/Mathematics Problem-Based Curriculum Units

- *Acid Acid Everywhere*
- *The Chesapeake Bay*
- *Dust Bowl*
- *Electricity City*
- *Hot Rods*
- *No Quick Fix*
- *What a Find!*
- *Guide to Teaching a Problem-Based Science Curriculum*
- *Models: A Study of Animal Populations*

General Curriculum Guides

- *A Guide to Teaching Research Skills and Strategies for Grades 4-12*
- *The Practitioner's Guide to Exemplary School Change*

Language Arts Publications

- *A Curriculum Framework in Language Arts for High Ability Learners*
- *Language Arts Topic Papers*
- *Libraries Link Learning: Program and Curriculum Resource Manual for use with At-Risk Gifted Children*

Language Arts Curriculum Units

- *Autobiographies: Personal Odysseys of Change*
- *Change through Choices: A Literature Unit for High School Students*
- *Changing Ideas, Changing Perspectives*
- *Journeys and Destinations*
- *Literary Reflections on Personal and Social Change*
- *Literature of the 1940's: A Decade of Change*
- *Patterns of Change: Cycles in Literature and in the World*
- *Threads of Change in the 19th Century American Literature*
- *Utopia: Man's Changing Ideas of the Ideal*

We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.

T. S. Eliot
Four Quartets, 1943

Appendix I

Selected Articles by Joyce VanTassel-Baska

The Development of Talent Through Curriculum

Joyce VanTassel-Baska

This article presents a case for examining the talent development process through the lens of an integrated curriculum model (ICM). The author describes a rationale for such a model, features that it would contain, and specific applications of it that have been made in two federally funded curriculum projects. The relationship of the model of ICM to curriculum reform variables are delineated along with implementation considerations that focus on the nature of the learner, and various aspects of the learning context.

Joyce VanTassel-Baska is the Smith Professor in Education, College of William and Mary, Virginia. She is also the author of several books and numerous articles on education and a Contributing Editor of the *Roeper Review*.

The content of curriculum in American schools has not been a subject of particular interest for the past 25 years until the recent national standards projects. With the advent of these efforts, there is a renewed interest in what students are learning as well as a continuing interest in how they are learning (O'Day & Smith, 1993). Curriculum for gifted learners has been a topic of strong interest since the 1980's with particular concern for how curriculum may be differentiated for such learners, especially in respect to content, process, product dimensions (Maker, 1982). Using curriculum as a vehicle for talent development for all learners represents a relatively new focus in general education, yet provides an important linkage to the on-going efforts of gifted education. This article explores a model for curriculum development that unites general approaches to talent development with instructional elements appropriate for all learners and issues associated with its use.

The development of any talent is a complex process involving the interweaving of many factors (e.g., Bloom, 1985; Feldman, 1986; Kulieke & Olszewski-Kubilius, 1989; Tannebaum, 1983). Of all the possible influences on talent development, the role of parents has been studied in the most depth. Research on gifted children with less than optimal family situations suggests that siblings, grandparents, adults in the community, teachers, and others, rather than parents, often serve as the primary influence in the development of talent (Goertzel & Goertzel, 1962; VanTassel-Baska, 1989; VanTassel-Baska & Olszewski-Kubilius, 1989). Institutional, individual, and intrapersonal forces all appear to shape individual talent development over the lifespan (VanTassel-Baska & Olszewski-Kubilius, 1989).

Work in talent development has focused on the lives of eminent individuals from various domains as a way to understand the talent development process retrospectively (Bloom, 1985). The factors that influence creativity and discriminate between a creative contributor and competent technician have been explored (Amabile, 1983; Getzels & Csikszentmihalyi, 1976). And the role that adversity plays in enhancing achievement motivation, performance, and resultant eminence has been addressed (Albert, 1993; Goertzel, Goertzel & Goertzel, 1978; Ochse, 1990). Factors associated with talent development in specific fields have also been studied. Several studies have been conducted on eminent scientists (Roe, 1953; Zuckerman, 1977), architects (McKinnon, 1962), and case studies on the lives of eminent writers and artists (Piirto, 1992).

The process of talent development in an individual may be characterized as slow and deliberate or quick and serendipitous. Bloom (1985) chronicled retrospectively the lives of 35 eminent individuals developing their talent to the highest level in middle adulthood who followed a fairly distinct pattern at stages of development along the way. He found that the pattern consisted of several variables. Initially, there was a nurturing and supportive family, the right teacher at the right time, and the opportunity to fall in love with a talent area. Later, competition was available in order to develop to the appropriate level or standard in the talent field. Considerable practice time in the area also characterized this later period.

Feldman (1986) studied talent development from the perspective of youth. By understanding prodigies he observed other talent development processes at work. Early exposure and opportunity to develop in a given field that is socially accepted and available is an important tenet of prodigious development. A support network including parents, peers, teachers, and mentors that encourage the prodigy in the talent area was also seen as a prerequisite. Finally, an outlet for the talent through publication, performance, or exhibition was viewed as necessary. Moreover, regardless of age, the internal characteristics of commitment to hard work, perseverance, and the need to create for both prodigies and successful adults form a valuable part of the talent development puzzle (Ochse, 1990). How people develop talent then has been credited to a combination of influences related to home, schooling and special training, and personality variables that facilitate the process (VanTassel-Baska & Olszewski-Kubilius, 1989). Darwin, for example, made a remarkable breakthrough in science because of a careful organization of intent and intellect brought to bear in a constrained environment during his time spent aboard the HMS Beagle as its botanist (Gruber, 1976).

The development of talent has also been deliberately planned for centuries by thoughtful parents from Mozart's father to Frank Lloyd Wright's mother. Schools, however, have been much slower to respond to the idea except in specialized areas such as the arts, mathematics, and science. Occasionally, liberal arts-minded schools for the gifted were created to ensure appropriate programming in all subjects. Many of these schools, however, did not consider themselves developers of individual specialized talent (Subotnik, Kassen, Summers, & Wasser, 1993).

Another approach to talent development has been to identify it and then seek to provide optimal match experiences. Early programs focused on the use of special classes to accomplish this end, emphasizing enrichment experiences for core groups of gifted students from second grade on (Hollingsworth, 1942; Barbe, 1955). A more recent model has included fast-paced movement through school curriculum, advanced curriculum placement in university-based settings, and/or mentoring as program implementation approaches. This approach has been institutionalized nationally through the academic talent search model developed by Stanley and his colleagues in the middle 1970's (Stanley, Keating, & Fox, 1974).

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A more inclusive approach to talent development currently advocated rests on the provision of curriculum for all students at appropriate levels of challenge so that talent may be discerned and encouraged from a broader range of students in the classroom. This idea, initially advocated by Passow (1955), has been recently popularized by Gardner (1983) and others promoting the application of a multiple intelligences theory in regular classrooms. Students are provided opportunities in linguistic, logical, mathematical, musical, artistic, kinesthetic, interpersonal and intrapersonal modules and encouraged to develop abilities in these various talent areas. Whole schools have now adopted this model (Bolanos, 1994).

Rationale for an Integrated Curriculum Model for Talent Development

A new approach to talent development has been explored through the development of curriculum for K-9 levels that demonstrates alignment with the curriculum reform paradigm and is reponsive to students talented in traditional academic areas (VanTassel-Baska, Gallagher, Bailey, & Sher, 1993; VanTassel-Baska, 1994). This approach has relied on the key factors of curriculum reform to guide the development process. It also has employed an integrated curriculum model that emphasizes talent development.

While many approaches have been used by schools in their programs for the gifted, the use of systematic challenging curriculum intervention has been lacking. Moreover, planned curriculum experiences have not been sustained over time. What the field has lacked is a comprehensive and cohesive curriculum framework that uses good curriculum design, that considers the features of the disciplines under study, and that sufficiently differentiates for talented students. Thus, it is time to consider an integrated model of curriculum for gifted learners, one that is sensitive to all important aspects of their learning needs. Salient characteristics of the gifted learner may be handled simultaneously in such a scheme, attending to precocity, intensity, and complexity as integrated characteristics representing cognitive and affective dimensions of the learner. Integrating curriculum approaches allows for this more broad-based response to student needs.

A second reason for an integrated curriculum relates to current delivery models. As pull-out programs have decreased in number, more gifted students are served in heterogeneous or self-contained settings, contexts where integrated curriculum approaches can work well if applied diligently and systematicly. Since an integrated curriculum represents a total curriculum package in an area of learning rather than an add-on curriculum, it provides the needed differentiation within traditional areas of learning for which schools are accountable.

A third reason for an integrated approach rests with the current research on learning. Studies have documented better transfer of learning occurring when higher order thinking skills are embedded in subject matter (Perkins & Salomon, 1989) and teaching concepts of a discipline a better way to produce long-term learning than teaching facts and rules (Marzano, 1992). Our understanding of creativity also has shifted toward the need for strong subject matter knowledge as a prerequisite (Amabile, 1983).

A fourth reason for using an integrated model for curriculum is related to a clear shift of emphasis in the field from the focus on the individual gifted learner to the process of collective talent development for all learners. As this shift has occurred, the wedding of curriculum principles important for the gifted have been seen as the province of all learners developing talents in both traditional and nontraditional domains, accomplished through employing interdisciplinary, concept-based curriculum and higher order thinking. This development calls for a close alignment of meaningful subject matter with its higher order manipulation of skills and ideas.

For all of these reasons the integrated curriculum model offers a cogent exemplum for curriculum design and development for gifted learners.

The Integrated Curriculum Model

The Integrated Curriculum Model (ICM) first proposed by this author in 1986 and further explicated in subsequent publications (VanTassel-Baska, 1992; 1993), is comprised of three interrelated curriculum dimensions, responsive to very different aspects of the gifted learner. These curriculum dimensions may be thought of as:

Emphasizing advanced content knowledge that frames disciplines of study. Honoring the talent search concept, this facet of the model would ensure that careful, diagnostic-prescriptive approaches were employed to ensure new learning as opposed to remedial instruction. Curriculum based on the model would represent appropriate advanced learning in that area. For example, teachers would routinely determine what students already know about their yearly instructional plan by testing them on end of year or end of chapter material before it is taught and then adjusting classroom instruction to their level of learning.

Providing higher order thinking and processing. This facet of the model would promote student opportunities for manipulating information at complex levels through employing generic thinking models like Paul's Elements of Reasoning (1992) and more discipline-specific ones like Sher's Nature of the Scientific Process (1993) in the scientific process. This facet of the model also implies the utilization of information in some generative way, whether it be a project or a fruitful discussion. For example, students may use the elements of reasoning to discuss and write about a short story by Faulkner.

Focusing learning experiences around major issues, themes, and ideas that define both real world applications and theoretical modeling within and across areas of study. This facet of the model honors the idea of scaffolding curriculum for talented learners around the important aspects of a discipline and emphasizing these aspects in a systematic way (Ward, 1981). Thus, themes and ideas are selected based on careful research of the primary area under study to determine the most worthy and important issues and ideas for curriculum development, a theme consistent with new curriculum specifications (Perkins, 1992; Rutherford & Ahlgren, 1989). These ideas become an important framework for curriculum development. The goal of such an approach is to ensure deep understanding of ideas rather than superficial responding.

Figure I portrays the ICM.

The Integrated Curriculum Model for Gifted Learners

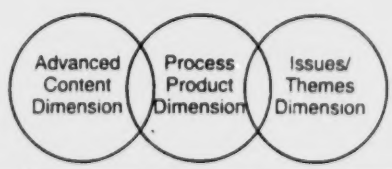

Figure I

This model synthesizes the three best approaches to curriculum development and implementation documented in the literature for talented learners (Benbow & Stanley, 1983; Maker, 1982; Ward, 1981). The fusion of these approaches is ntral to the development of coherent curriculum that is sponsive to diverse needs of talented students and yet provides rich challenges for optimal learning for all.

Translation Into Curriculum

One of the translations to a curriculum framework and teaching units of ICM has been accomplished in the area of science. The second has been developed in the language arts. To date, these two curriculum areas represent the only examples of a deliberate effort to translate the model into written materials. The translation of the ICM was accomplished by developing a curriculum framework addressing each of its dimensions in an integrated way. In order to satisfy the need for advanced content, the language arts curriculum developed for grades K-9 used advanced literature selections, works in which the reading level was two years beyond grade level, used advanced language, and contained multiple levels of meaning. The writing emphasis is placed on persuasive essays, developing argument in written form, a more advanced form of writing than typically taught at elementary levels. Use of advanced vocabulary and the mastery of English syntax at the elementary level is also stressed.

The process-product dimension of the curriculum is addressed by use of the embedded model of reasoning developed by Paul (1992) and the use of a research model developed to aid students in generating original work. Products are encouraged through both written and oral work.

The issue/theme dimension of the curriculum is explicated by focusing on the theme of change as it applied to works of literature selected for the unit, the writing process, language study, and learners reflecting on their own learning throughout the unit. Additionally, studying an issue of significance is emphasized as a part of the research strand for each unit. To date, six units have been developed, validated, piloted and revised, using this framework.

The translation of the ICM to the National Science Curriculum Project for High Ability Learners was driven by the overarching theme of systems which became the conceptual organizing influence in each of seven units of study. Students learn the elements, boundaries, inputs and outputs as well as interactions of selected systems. Through a problem-based learning approach, they also learn about how science systems interact with real world social, political, and economic systems. The process-product dimension of the curriculum model is addressed through engaging students in a scientific research process that leads them to create their own experiments and to design their own solutions to the units' central problem. The content dimension is addressed by selecting advanced science content for inclusion in each unit and encouraging in-depth study of selected content relevant to understanding the central problem of the unit. These units are being used in classrooms across the country to incorporate the new science emphasis, and have been found successful in heterogeneous as well as more restricted settings.

An example of the translation of the ICM model to the specific disciplines may be found in Figure II.

Application of Integrated Curriculum Model to Science and Language Arts Curriculum

	Science Units	Language Arts Units
Advanced Content Dimension	• Student-determined mastery of science content through problem-based approach • Formative and summative assessment of science content learning	• Advanced reading selections • Corresponding advancedvocabulary work • D → P approach used to teach grammar • Expository essay writing
Process-Product Dimension	• Use of scientific process embedded in problem-based learning • Preparation of problem resolution and presentation to class	• Use of writing process model coupled with self, peer, and teacher assessment approaches • Use of Paul's model of reasoning to explore meaning in literature and to conduct real world research • Production of research project/oral presentation of findings
ues. Themes mension	• Organized around the concept of systems • Teaching to underlying generalizations about systems	• Organized around the concept of change • Teaching to underlying generalizations about change

Figure II

Curriculum Reform Design Elements

These national curriculum projects for high ability learners were developed with an understanding of appropriate curriculum dimensions for gifted students, but they also demonstrate the use of key design features of curriculum reform strongly advocated by the national standards projects (O'Day & Smith, 1993) and the middle school movement (Erb, 1994). Thus the projects employ the following emphases:

- The curriculum is meaning-based such that it emphasizes depth over breadth, concepts over facts, and is grounded in real world issues and problems that students care about or need to know. In science, students study the implications of a daily occurrence like acid spills on interstate highway systems. In language arts, they relate to the impact of treatment of minorities in this country as it has changed over a 60 year period.
- The curriculum incorporates higher order thinking as integral to all content areas. The units provide students opportunities to demonstrate their understanding of advanced content and interdisciplinary ideas through strategies such as concept mapping, persuasive writing, and designing experiments.
- The curriculum emphasizes intra and inter-disciplinary connections through using overarching concepts, issues, and themes as major organizers. Thus, students study systems of cities, of government, of economies, and of language as well as chemistry and biology. The concept of change in language arts is relevant to literature, writing, and language as well as to mathematics, art, and music.
- The curriculum provides opportunities for metacognition, student reflection on learning processes. Students are involved in consciously planning, monitoring, and assessing their own learning for efficient and effective use of time and resources.
- The curriculum develops habits of mind through cultivat-

ing modes of thinking that resemble professionals in various fields in respect to skills, predispositions, and attitudes. In science, curiosity, objectivity, and skepticism are openly nurtured; in language arts, the mode of reflection and revision is consistently encouraged.

• The curriculum promotes active learning and problem-solving by having students take charge of their own learning. In the problem-based science units, students find out what they know, what they need to know, and how to pursue important knowledge in working on a real world problem in small investigatory teams. In language arts, students team to discover how language functions and is structured.

• The curriculum is technology-relevant in that it uses various new technologies as tools for the learning process, from doing library research via CD-ROM, to composing at the word processor, to communicating with students across the world by e-mail. The units of study in both science and language arts incorporate activities that require these applications.

• The curriculum is framed on learner outcomes of significance, those that advance higher level skills and conceptual understanding. Expectations for learning are identified at targeted grade levels that reflect the priorities of the new curriculum for being broad-based, conceptual, and relevant to real world application. In each set of units, learner outcomes reflect content, process, and concept emphases.

• The curriculum employs authentic assessment by tapping into what students know as a result of meaningful instruction. Using approaches like portfolios and performance-based activities, the units engage learners in assessment as an active part of the learning process.

All of these reform elements formed the basis for initial curriculum development work. Tailoring of the curriculum for gifted learners occurred through ensuring the following kinds of emphasis:

— provisions for acceleration and compression of content;
— use of higher order thinking skills (e. g., analysis, synthesis, evaluation);
— integration of content by key ideas, issues, and themes;
— advanced reading level;
— opportunities for students to develop advanced products;
— opportunities for independent learning based on student capacity and interest;
— and use of inquiry-based instructional techniques.

Thus the systematic fusion of integrated curriculum considerations was effected.

Implementation Considerations

The implementation of any curriculum model is based on several considerations in the school setting. Most important among them is the nature of the learner. For talented students, regardless of the richness of the core curriculum base, there will be a need to address certain powerful characteristics through flexible implementation of a model.

The Learner: Characteristics, Aptitudes, and Predispositions

There are many characteristics of gifted learners that one might focus on for a discussion of creating an optimal match between learner and curriculum. Several lists have been discussed as a basis for curriculum work (e.g., Maker, 1982; VanTassel-Baska, 1993). However, in our studies with curriculum it has become apparent that three such characteristics remain pivotal for purposes of curriculum planning and development.

The precocity of the learner is a key characteristic to consider in curriculum development. Gifted learners almost by definition evidence advanced development in some school-related curriculum area. The most common tested areas for such development are in the verbal and mathematical subject domains. Most students identified for gifted programs are at least two years advanced in one or both areas. Such evidence of advanced development provides a basis for curriculum planning at a more advanced level and the expectation that such students can master new materials in one-third to one-half the time of typical learners. For very gifted learners, there is a powerful motivation to learn "fast and move ahead."

In addition to precocity, another key characteristic that deserves attention for curriculum development is the intensity of gifted learners. This intensity may be manifested affectively in the realm of emotional responsiveness when students react strongly to the death of a pet or the classroom injustice committed by a teacher. But this characteristic also has saliency in the cognitive realm. Students exhibit intensity through the capacity to focus and concentrate for long periods of time on a subject that fascinates them or an idea they find intriguing. Such a characteristic can just as quickly become dissipated in uninteresting busywork or lack of depth in the exploration even of a subject of interest. This characteristic, like precocity, needs curricular attention.

The third learner characteristic of curricular interest is complexity, the capacity of gifted learners to engage in higher level and abstract thinking even at young ages. It also refers to their preference for hard and challenging work, often at levels beyond current functioning. They also enjoy working on multiple levels simultaneously as when solving complex real-world problems that have many parts and perspectives to study. Just as with precocity and intensity, the characteristic of complexity in the gifted demands a curriculum responsiveness because it is openly desired by the learner as well as indicated by student behavior in the classroom.

These three characteristics each dictate an approach to curriculum that honors the various facets of the gifted mind and personality. While other curriculum models have addressed a particular facet of the gifted learner, the Integrated Curriculum Model represents a fusion of several approaches such that the most powerful characteristics of the gifted are directly reflected in the curriculum intervention.

While this model has salience for all learners, based on a talent development paradigm, the variable of time becomes crucial in implementation. Not all learners will be ready at the same stage of development in each area for the advanced, intensive, and complex study required by the curriculum. For example, the language arts curriculum reading selections may be appropriate for high ability fifth graders, but too difficult based on reading level for average fifth graders. Teachers then would need to decide whether to substitute more accessible literature and still employ the unit with all students or to differentiate instruction in the classroom, using the unit only with a cluster group of high ability learners. The judicious application of this curricular model for all learners is thus advised.

The Context Variables

What are the context variables that need consideration in order for special curriculum for the talented to work in schools? While the need for a match between the learner and the intervention has already been described, it is also important to highlight important contextual considerations that could

impact the successful use of this curriculum model in school settings. There at least four variables that must be considered.

Flexibility in Student Placement and Progress. Even an enriched and accelerated curriculum developed for high ability learners and addressing all of the educational reform principles cannot be used without careful consideration of entry skills, rate of learning, and special interests and needs. Thus ungraded multi-age contexts where high ability learners access appropriate work groups and curriculum stations is a critical component of the implementation context. Pretesting of students on relevant skills is a central part of the new curriculum projects and diagnosing unusual readiness or developmental spurts that may occur in a curriculum sequence is also important. Schools may notice and use such data as a basis for more in-depth work in an area of a particular teaching unit.

Grouping. As curriculum for high ability learners is implemented, attention must be paid to the beneficial impact of grouping for instruction. As Kulik's latest reanalysis of the grouping data points out, when curriculum is modified for gifted students, the positive effects of grouping become more prominent (Kulik, 1993). Moreover, recent classroom studies have verified that little differentiation is occurring in heterogeneous classrooms for gifted students (Archambault, et al., 1993), and the majority of teachers in our schools are not trained to teach gifted learners (Westberg, Archambault, Dobyns, and Salvin, 1993). Thus forming instructional groups of gifted students for implementation of differentiated curriculum is clearly the most effective and efficient way to deliver it. Whether such grouping occurs in separate designated classes or whether it occurs in regular classrooms is a local consideration.

Trained Teachers. Based on recent data confirming the significant role of teacher training in providing differentiated instruction for the gifted (Hansen & Feldhusen, 1994; Tomlinson, et al., 1994) and the availability of coursework in the education of the gifted (Parker & Karnes, 1991), there is good reason to place gifted students with teachers who have received at least 12 hours of professional training. The benefits to gifted learners become greater when differentiated curriculum is handled by those sensitive to the nature and needs of such students. Some training in the direct implementation of the described curriculum materials is also desirable. Depending on the experience of the teachers, three days of training in the various approaches employed in the materials should be sufficient.

Climate of Excellence. In order for gifted learners to perform at optimal levels, the educational context must offer challenging opportunities that tap deeply into students' psychological states (Csiksentmihalyi, Rathende, & Whalen, 1993), that provide generative situations (Feldhusen, VanTassel-Baska, & Seeley, 1989) and yet also demand high standards of excellence, corresponding to expectations for high level productivity in any field (Ochse, 1990). More than ever, the climate of a school for excellence matters if curriculum standards are to be raised successfully for any student. For gifted students in particular, such a climate must be in place to ensure optimal development, positive attitudes toward learning, and engagement. Such a climate is also essential for disadvantaged gifted youth, put more at risk by lowered expectations for performance (House & Lapan, 1994).

Conclusion

Talent development offers a viable way to enhance the way schools carry out teaching and learning for all learners. The Integrated Curriculum Model offers one concrete approach for restructuring curriculum for talented learners at the same time that it responds to the curriculum reform agenda for meeting the needs of all learners. It offers practitioners concrete units of study to implement in classrooms nationally by meeting the criteria for exemplary curriculum design, exemplary content considerations, and differentiation for talented learners. The unit development work provides a coherent translation from theoretical principles to practice. Only multiple replications and long-term use will yield the more complete answers we seek to questions of long-term effectiveness with talented learners and indeed all learners in classrooms.

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Excellence as a Standard for All Education

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What is excellence and how do we measure it? Gross (1989) equates the excellence motive with the need to achieve, the success drive, and motivation to learn at high levels. Gardner (1961) defines excellence as striving for quality in all areas of a society. Roeper (1996) views excellence as a standard for gifted students to achieve in psychic terms, learning to develop as ethical and moral human beings. Silverman (1993) maintains that excellence cannot be defined as *success* because our culture refuses to recognize the contributions of many disenfranchised groups, particularly women, who attain excellence in areas like homemaking and childrearing. Thus excellence may be conceived of as a synonym for success, achievement, or psychic growth, depending on one's definitional structure. This author would define it as both the process of working toward an ideal standard and attainment of a consistently high standard of performance in a socially valued endeavor.

In this article, excellence is examined from the viewpoint of individual habits of mind that foster it, the role of the culture in promoting it, the relationship to technical mastery versus world class performance, and the sometimes controversial relationship to equity. A brief commentary is included on promoting excellence in community, school, and home settings.

Excellence as Habit of Mind

My father-in-law, who was a preeminent furnace man, often was known to quip, *If a job's worth doing, then it is worth doing right.* His view of work is highly consonant with the concept of excellence as a habit of mind. Excellence requires hard work, disciplined application, but above all an attitudinal disposition that implies one will put forth sufficient effort to do any work at the highest level possible of which one is capable at a given time.

There are intellectual habits of mind that can be applied to this excellence orientation. Paul (1992) captured them very well in his model of thinking—intellectual honesty, integrity, and humility coupled with curiosity and intellectual independence born of an inquiring mind. Students, whose thinking is held to standards such as clarity, accuracy, logical consistency, and fairness, learn to improve their thinking in various ways. Passow (1988) sagely noted that many times we enhance gifted students' knowledge without helping them think through the morality of that knowledge. When we engage in thinking and reasoning in the pursuit of knowledge, we need to help students understand that human decision-making has to consider the moral and ethical side of argument lest arrogance and the art of manipulation become the model for achieving ends. Developing habits of mind, then, constitutes an important way to pursue excellence in intellectual endeavors.

Working with gifted students to help them achieve excellence requires that we abandon the oft quoted adage of *helping them learn to suffer fools gladly* but rather help them recognize the seriousness of the intellectual enterprise and the process of thinking that supports it. To learn humility is to approach all situations as a learner, with an attitude that other people have something to contribute to the full understanding of an idea or problem. Such humility also predisposes one to be open to experience, not bounded by an absolutist approach to learning. Clearly such understanding comes only with maturity, but needs to be instilled early on in order to develop at all.

Ultimately, thinking about excellence as a set of attitudes to be developed and practiced over a lifetime yields an important way of understanding the concept. It also affords a basis for modeling and teaching to excellence as a standard for all gifted students.

Excellence in the Culture

Two important values that must be present in a culture to promote excellence among its citizens are the value of education and learning, and the value of hard work. Those cultures that have embodied these values over time have emerged on the world stage as achieving civilizations. Currently, both Asian and European cultures have a better understanding of these principles than we do in the United States even though we excel in sheer productivity. International studies continue to demonstrate that our students are ill-prepared for the rigors of subject matter learning in comparison to other first world countries. It is difficult to interpret the data in any way that does not indict American society and its culture of schooling, since evidence suggests that students in Japan and Korea, for example, start out at comparable levels to American students in first grade ability yet diverge after that stage of schooling in respect to achievement (Stevenson & Stigler, 1992). If ability does not vary, then cultural differences in respect to values probably account for many of these differences in achievement.

In American society, we are ambivalent about education. We enjoy the idea of an educated citizen that engages vigorously in the process of democracy, yet we reject the notion that an education must be worked at, requiring effort and commitment over time. Thus, education is viewed as a commodity, a credential to be exchanged in the marketplace as opposed to an attitude toward learning and living. This narrow interpretation renders the process of learning as irrelevant since it emphasizes a terminal point, not an on-going dynamic process.

American society, then, may not be a hotbed of nurturance for excellence since it understands poorly the role of learning in everyday life as well as the application of learning to specific areas at maximal levels. A culture that holds sports heroes, rock stars, and a cartoon mouse as cultural icons may not be able to support a deep appreciation for learning in multiple talent areas. Yet, other aspects of our society support the development of talent: the freedom and openness, the diversity of ideas and peoples, the emphasis on individualism, all are societal indicators that a climate for excellence exists. These indicators also

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help explain how individuals have made significant contributions in a variety of fields in spite of the absence of a strong overall value orientation toward intellectual attainment. Those who do value education in this country have access to the most powerful education at the university level of any society.

Technical Mastery vs. Excellence

Frequently there is a misconception about what promotes excellence in an endeavor. Excellence is often perceived as achieving technical mastery in some area, where there is evidence that high level skills have become automatic. Yet excellence implies pushing the envelope of technical mastery to another level, of finding ways to improve on past performance as opposed to merely replicating it. The child, who gets a perfect paper and equates that with excellence, even though the work was very easy, has a misplaced conception of excellence. The high school student, who masters the skills of argumentation sufficiently to engage in a debate, still may have much to learn about being excellent in the enterprise. The teacher, who masters the repertoire of inquiry strategies, found effective in working with the gifted, still can improve on the execution, timing, and relative value of them in a particular context. The scientist, who goes about her work of research in a highly competent manner, still has need to extend herself to work on new questions or to probe existing questions more deeply. All of these examples illustrate the difference between competency and the ethic of excellence.

Excellence demands that one constantly strive to go beyond one's personal best, to try to exceed one's past record, and to make a contribution of worth to a given endeavor. The process of striving for excellence may be best summed up by Browning's oft quoted phrase: *Ah, but a man's reach should exceed his grasp or what's a heaven for!*

Excellence as World Class Performance

When we speak of excellence in the international arena, we have used the term world class standards of performance. Our own national standards in the content areas have articulated levels of performance for K-12 learners at world class levels. But what does world class really mean? Perhaps our best examples can be found in sports. When Kristi Yamaguchi performed triple toe loops to win the gold medal in the winter Olympics in Norway, she set a new world class standard for women's figure skating. All future skaters will need to demonstrate that feat to be considered world class even though no skaters had been required to perform the maneuver before Yamaguchi. Thus a standard was set for women's figure skating for years to come.

When we engage in thinking and reasoning in the pursuit of knowledge, we need to help students understand that human decision-making has to consider the moral and ethical side of argument lest arrogance and the art of manipulation become the model for achieving ends.

Similar standards are manifest in academics. The International Math Olympiad recognizes world class teams who compete for individual and group honors. Physics also sponsors a worldwide competition. Thus, in several areas of talent we can see the display of maximum competency where the goal is to exceed what has been done before. This standard-raising behavior is the ultimate example of moving a field forward (Feldman, 1983) as in the case of Yamaguchi or performing beyond expectations for one's stage of development as in the academic Olympiad competitions (Stanley, 1990).

Yet not all individuals talented in specific fields can equal these kinds of feats. Does that imply they are not excellent? No, but such standard-setting by its very definition can be accomplished by only a few individuals in a given field. However, such attainment also establishes a higher frame of reference for functioning within a given domain, and makes clearer the path toward greater accomplishments for those who follow the individual making the breakthrough. New upper limits have been established to determine excellence in a field.

For most talented and gifted individuals, the pursuit of excellence is the goal, not the realization of a significant breakthrough. There remains a sense of satisfaction in doing one's best and through it making progress toward the goal. My Latin classics professor frequently commented on his joy of *laboring in the vineyards of the classics.* I'm sure he did not expect to create a new blend of grape for conversion to wine, but his was a simple pleasure in serving the higher goal. And while he was not an innovator in his field, he did make substantive contributions to it in many arenas.

We cannot claim that our current standards in academic areas are at world class levels. Our students perform poorly on national exams that have clear and high standards, nor do they excel on international comparisons either (Darling-Hammond, 1991).

The argument for national standards is to infuse excellence into our schools through setting high standards for performance. Not since the curriculum projects of the 1960's have we seen such emphasis on what needs to be taught at what levels in American schools. The fact, however, that serious curriculum development work has lain fallow for thirty years calls into question the capacity of schools to implement these standards effectively even when they have them clearly defined. For all of the standards require teachers who are capable of translating both the content and related pedagogy which will enhance learning (Shulman, 1987), a challenge that is far from being met. Moreover, the new standards imply that all students are capable of learning at high levels, a claim that also has yet to be substantiated (Bracey, 1996). In fact, Bracey notes that no state has evidence that all students have even reached eighth grade proficiency levels, let alone the anticipated levels of performance required in the new standards.

The difficulties with the national standards movement, of course, are manifold. Some critics argue that the standards take away local control; others argue that the standards are biased toward particular perspectives in a subject domain, as has been the case of the debate over the history standards. Gifted educators remain skeptical about the new standards because of the room for error in interpreting each standard at too low a level. Yet, all the criticism notwithstanding, if the national content standards became the core curriculum tomorrow, assuming appropriate implementation, a higher uniform standard of excellence would be in place for the education of the gifted. Unfortunately,

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the standards movement is proceeding more slowly than may be desirable, with each state developing its own translations of the standards through curriculum frameworks which in time get modified further at local levels. This process has a watering down effect on the expectations for both learners and teachers. Thus, the power inherent in the national standards for promoting excellence in each subject domain may already have been compromised.

Meanwhile, other countries continue to exceed our standards with larger percentages of the population while fewer of our students perform at even modest levels. Less than 1% of the eligible school population even takes advanced placement work in more than two subjects. Moreover, approximately only 10% of students taking Advanced Placement (AP) exams, for example, score at the level of an AP scholar (namely, a 3, 4, or 5). Given both the cost effectiveness and standards of excellence employed in this program, it is telling that so few students have access to or choose not to access (since it is also elective) AP at the high school level. A similar situation exists with the International Baccalaureate program in respect to under-utilization by school districts of a rigorous precollegiate experience.

If academic excellence is to flourish in this country, then efforts like national standards and Advanced Placement coursework must succeed. Their limited impact speaks to schools preoccupied with social-political issues and problems, not learning and teaching the pursuit of excellence.

Excellence versus Equity

John Gardner in his classic 1961 book on excellence posed the now famous question *Can we be equal and excellent too?* In the current stages of school reform in this country, this issue could not be more relevant. Never have we been in greater need for a balance between these two principles in education. Equity issues are powerful in their own right. When we have millions of school children attending schools in substandard physical conditions, with ill-trained teachers, and without up-to-date textbooks, we are brought face-to-face with the realities of inequality among schools (Kozol, 1991). Yet, are the solutions to these problems the same as those that may address the deep malaise of underachievement that plagues even our very affluent schools and districts, where curriculum is rigid not rigorous and age grade lockstep is the norm? I think not. For, while equity and excellence must both be addressed, the approaches may be very different. The focus to address equity concerns must come from outside in the form of resources for building improvement, staff development, and purchasing power for materials. An excellence emphasis, on the other hand, must originate within a school system where a staff has made a commitment to school improvement and positive change. These internal forces can be quite powerful, even without substantial new resources, in affecting a climate of excellence.

Ironically, however, as has been the case in earlier decades of American education, we have swung very far in the direction of equity at the expense of excellence (Henry, 1994). In the process, arguments have arisen against the legitimacy of the quest for excellence itself, with the accusation that gifted education disrupts the community (Shapon-Shevin, 1995), and that the concept of giftedness has been constructed by self-interested groups (Margolin, 1996). To dismantle an infrastructure like gifted education on the altar of equity is at best only a symbolic act, but one that renders real damage to the education of our best students in the process. Excellence for all, if it means the same standards, same curriculum, same instructional emphases, becomes basically inequitable for all since it fails to recognize individual differences. Excellence cannot be perceived as a group norm; rather, it must be construed as an individual quest for higher learning and self-improvement.

True equity cannot disallow the opportunity to pursue excellence at a level and in areas most efficacious for the individual learner. To level the playing field, a phrase often used in support of equitable practices, provides no real benefit to anyone. For those who are handicapped by it, through being held back or asked to tutor others, as in the case of the gifted, this practice is not educational; it is remedial. For those who enter the game at lower levels of proficiency, it does not guarantee an enhancement of skill and ability, only a fair game where no one can move ahead of others because of the rules. For the referee in this level game, the job changes from a focus on arbitrating progress toward individual learning goals based on readiness to obliterating differences among players. So who benefits or even wants to play the game? Authentic learning and the pursuit of excellence are abandoned for an artificial appearance of equity. Bringing the top down does not bring the bottom up; it only lowers the level of play.

For most talented and gifted individuals, the pursuit of excellence is the goal, not the realization of a significant breakthrough.

We would be farther ahead to acknowledge the fundamental relationship of excellence and equity:

- All students enter the learning enterprise at different levels, based on prior experiences and developed skills and competencies. Excellence should be promoted in all learning endeavors, but at different levels based on personal mastery (my excellent essay may be merely mediocre for you). To offer the same curriculum and instruction to all students is to deny that individual differences exist or matter in the enterprise of learning.
- Equity is present when all students have equal access to potential opportunities, based on reasonable standards of competence. High school students all have access to calculus if the school offers it, the student has taken the prerequisite courses, and is motivated to take advantage of the opportunity. Any of these three conditions not being met renders the educational door to access less open.
- Lack of equity is directly linked to limitations in resources and the will to equalize them or at least establish some parity. Schools are not equitable contexts for the gifted where the resource share is less than one half of 1% of federal and many state budgets.
- To embrace excellence in an educational sense means that schools are willing to promote talent development in all areas of the school and provide appropriate challenges for all learners in that context. Knowing what precocious learners are capable of doing at given stages of development provides an important basis for raising the excellence standards for other learners as well. To be concerned with excellence means a willingness to strive for

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the highest levels of achievement for all students. Thus, maximum not minimum competence becomes the performance goal.

- Excellence and equity are treated as extremes on a continuum of philosophical perspectives on the purpose of schooling, swinging from side to side like a metronome. Just as force and resistance to force in tandem can create sound in music and as the resistance to the force of electricity creates heat in wire, so too excellence and equity must be perceived as necessary opposites to create effective schools. Only as both are held in creative tension as important values is schooling likely to improve.

Promoting Excellence in the Community

Communities, by the nature of the resources they make available, can do much to encourage educational excellence. Ready access to powerful technological resources is one example of such an effort. In communities around the country like Blacksburg, Virginia, computers are available in all public places, as common as the telephone. Access to information is further enhanced by strong community librarians that provide expertise on information resources to all comers.

Another powerful community support to promote excellence is a university that serves as a learning and communication resource for all age groups as well as for networks of individual communities. Access to the arts in a community is another major public avenue for promoting excellence. Community-based arts and humanities programs provide educational and aesthetic opportunities that enrich all who are interested and motivated to access new modes of experience and learning.

Thus communities can be powerful catalysts for promoting excellence for all individuals. Obviously, however, members of communities need to be made aware of the benefits that accrue for them and their children from such community involvement.

Promoting Excellence in Schooling

The best way for schooling to promote excellence is through a commitment to growth and development through specific improvement mechanisms. There are many indicators of excellence that schools can use as yardsticks for purposes of self improvement. A few of these indicators follow:

- Does the school have a stated mission, philosophy, and goals?
- Does the curriculum use materials and resources that support optimal student learning, based on the school's goals?
- Do the teachers employ inquiry-oriented techniques?
- Do the teachers use metacognitive strategies?
- Do teachers individualize their approaches through diagnostic assessment and adaptation of curriculum based on student needs?
- Is assessment used to enhance instruction?
- Are school leadership approaches consistent with positive change efforts?

There exists a real need for schools to internalize such indicators as important benchmarks to gauge improvement for all learners.

Promoting Excellence in Parenting

Parenting processes can help students acquire the habits of mind associated with the pursuit of excellence in learning contexts (Hoover-Dempsey & Sandler, 1995). We know from studies of gifted families that certain practices can yield powerful positive outcomes for students. Csikszentmihalyi (1993) found that the homes of achieving adolescents were characterized by:

- Clarity of rules and feedback
- Consistency of standards
- Family time for challenging activities
- A high degree of trust and a sense of security and commitment
- Constructive use of leisure time

Bloom (1985) also found that the values of parents of children who would achieve at high levels in adulthood coalesced around the importance of education and hard work. He also noted that monitoring children's learning is a powerful part of the parenting role. Hoover-Dempsey and Sandler (1995) cite the importance of parent involvement and parent instruction as powerful mediators of student learning in specific areas. Parents clearly have a powerful role in promoting excellence. Their influence is far greater than any other resource available to young learners.

Conclusion

We must reaffirm efforts to promote excellence in our schools, our homes, and our communities. If any group of educators is passionately committed to excellence, it should be those of us in gifted education. Excellence should be the goal on which we base the future work of our field, a goal for all learners including those who are advanced in their development. Finding ways to nurture such learners in an ethos of excellence is a lifetime challenge for all of us!

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Silverman, L. (1993). *Counseling the gifted and talented*. Denver, CO: Love Publishing Company.

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Appendix J

Video of 1998 Opening Session

Appendix K

Sample Workshop Handouts

Biology Workshop Handout
For Students

Explore Your Genotype

This activity will allow you to learn about your genotype based on the phenotypes of members of your family (remember that "genotype" means the collection of genes you possess, while "phenotype" means the traits you display.) Even someone who is adopted and does not know their birth parents can say a great deal about their own genotype based on their phenotype.

Although this exercise is just for fun, it can be very important to know about the genotypes and phenotypes of the members of your family: there are many genes that cause increased susceptibility to disease, and thus knowing the medical history of your family members (their medical phenotype) can help you predict medical problems that you may eventually experience.

Scientific background:

Humans are diploid organisms: this means that for most of their genetic loci (except for loci found on the X and Y chromosomes), each human has two copies of each gene. These copies do not need to be identical; different forms of a single gene, known as alleles, can have different functions. For example, the gene for eye color has multiple alleles, some of which can result in a person's having blue eyes, while others result in a person's having brown eyes. Dominant alleles show their presence in a person's phenotype no matter what the person's other allele is; recessive alleles only show their presence in a person's phenotype in the absence of dominant alleles. The allele that results in brown eye color (the "brown" allele) is a dominant allele, whereas the allele that results in blue eye color (the "blue" allele) is recessive. This means that there are two genotypes that can result in brown eyes: the person can either have two "brown" alleles or one "brown" and one "blue" allele. There is only one genotype that can cause blue eyes, though: a blue-eyed person has to have two "blue" alleles.

Instructions:

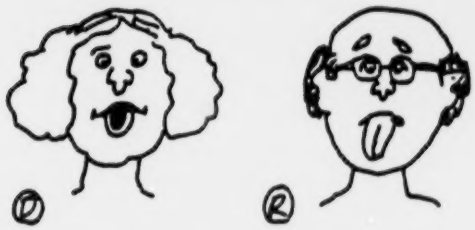
Each of the traits on this handout is controlled by a single gene. The dominant allele of this gene will allow anyone who has at least one copy of this allele to express this dominant trait in their phenotype; the recessive allele will not. Two copies of the recessive allele will result in the expression of the recessive form of the trait. In the pictures, (D) stands for the dominant form of the trait, while (R) stands for the recessive form of the trait.

For each trait, determine your own phenotype (dominant or recessive); fill in the blanks for your parents' phenotypes if you know them.

Next, look for recessive forms of each trait. Any recessive forms have to be caused by the presence of two recessive alleles in the person's genotype. Fill in the genotype blanks corresponding to each recessive trait. You can name these alleles as you choose. Geneticists often use capital letters to represent dominant alleles and lower case letters to represent recessive alleles; thus the "brown" allele might be known as "B" while the "blue" allele might be known as "b".

Finally, try to predict your genotype for any dominant traits you express by thinking about the alleles that your parents possess. Remember that, for each of the genes described in this exercise, you get one allele from your mother and one allele from your father. If you have brown eyes, your father has brown eyes, and your mother has blue eyes, you have to have one copy of the "brown" allele and one copy of the "blue" allele- your mother couldn't give you a "brown" allele, after all.

TONGUE ROLLING- THE ABILITY TO HOLD YOUR TONGUE IN A U SHAPE.



Mom's phenotype____
Mom's genotype ____

Your phenotype_____
Your genotype _____

Dad's phenotype ____
Dad's genotype ____

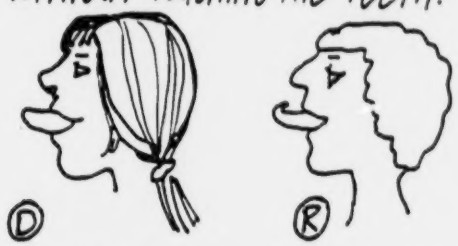
FREE EAR LOBES

Mom's phenotype____
Mom's genotype ____

Your phenotype_____
Your genotype _____

Dad's phenotype ____
Dad's genotype ____

TONGUE FOLDING- THE ABILITY TO BEND THE TIP BACK SHARPLY WITHOUT TOUCHING THE TEETH.

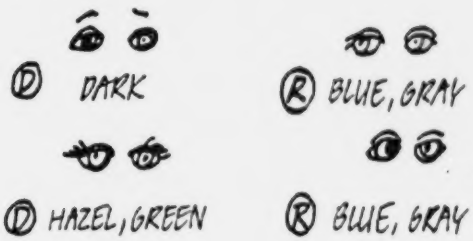


Mom's phenotype____
Mom's genotype ____

Your phenotype_____
Your genotype _____

Dad's phenotype ____
Dad's genotype ____

EYE COLOR



Mom's phenotype____
Mom's genotype ____

Your phenotype_____
Your genotype _____

Dad's phenotype ____
Dad's genotype ____

DARK HAIR

Mom's phenotype____
Mom's genotype ____

Your phenotype_____
Your genotype _____

Dad's phenotype ____
Dad's genotype ____

DIMPLES

Mom's phenotype____
Mom's genotype ____

Your phenotype_____
Your genotype _____

Dad's phenotype ____
Dad's genotype ____

WIDOW'S PEAK

Mom's phenotype____
Mom's genotype ____

Your phenotype_____
Your genotype _____

Dad's phenotype ____
Dad's genotype ____

HAIR ON MIDDLE JOINTS OF FINGERS

Mom's phenotype____
Mom's genotype ____

Your phenotype_____
Your genotype _____

Dad's phenotype ____
Dad's genotype ____

(Adapted from Blood and Guts, by Linda Allison)

THE FIELDS

in different fields have different ways of looking at a problem—the fun is to synthesize insights from both fields into a new understanding.

I came to my current research project in a roundabout way. In high school, I was interested in both biology and physics. I attended Harvard and studied physics with a biophysics emphasis. As an undergraduate, and then as a beginning Ph.D. student, I sampled research in a variety of areas of physics, biology, and engineering. One of these research projects, on human interfaces for remote robotic surgery, turned into M.S. in electrical engineering science.

My Ph.D. work involves elements of several fields. I'm designing a control system for a simulated human that will learn how to do somersaulting, twisting platform dives (like those performed in the Olympics). The ability to control a complex system like this can be useful in robotics, computer animation, and the development of virtual environments. The control design also has theoretical relevance in engineering.

The diving problem is a difficult one. Because the physics of diving is complicated and there are many joints to coordinate, traditional engineering methods don't provide very good solutions. By tying together ideas from biomotor control (how biological organisms use their nervous systems to control movement), artificial intelligence, and robotic control, however, I hope to get my simulated human to learn to dive.

Lara Crawford

For Further Reading

General:

Thomas, Lewis. *The Lives of a Cell: Notes of a Biology Watcher.* New York: Viking Press, 1974.

Nuland, Sherwin. *The Wisdom of the Body: Discovering the Human Spirit.* New York: Alfred A. Knopf, 1997.

Mayr, Ernst. *This is Biology: The Science of the Living World.* Cambridge, MA: Harvard University Press, 1997.

Gell-Mann, Murray. *The Quark and the Jaguar: Adventures in the Simple and the Complex.* New York: W.H. Freeman, 1994.

Cancer:

Scientific American (Special issue.) Sept. 1996.

Evolutionary biology:

Dawkins, Richard. *River Out of Eden: A Darwinian View of Life.* New York: Basic Books, 1995.

Dennett, Daniel C. *Darwin's Dangerous Idea: Evolution and the Meanings of Life.* New York: Simon & Schuster, 1995.

Lewin, Roger. *Patterns in Evolution: The New Molecular View.* New York: Scientific American Library, 1996.

Mayr, Ernst. *One Long Argument: Charles Darwin and the Genesis of Modern Evolutionary Thought.* Cambridge, MA: Harvard University Press, 1991.

Developmental neurobiology:

Science (Special section.) 15 Nov. 1996.

Infectious disease & epidemiology:

Karlen, Arno. *Man and Microbes: Disease and Plagues in History and Modern Times.* New York: Simon and Schuster, 1995.

Preston, Richard. *The Hot Zone.* New York: Random House, 1994.

Bioinformatics:

Fischman, Joshua. "Bioinformatics." *Science* 2 Aug. 1996: 591-93.

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Science (Special section.) 17 Jan. 1997.

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Medicine:

Laster, Leonard. *Life After Medical School: Thirty-two Doctors Describe How They Shaped Their Careers.* New York: W.W. Norton, 1996.

Memory & neurology:

Alkon, Daniel L. *Memory's Voice: Deciphering the Brain-Mind Code.* New York: HarperCollins Publishers, 1992.

Sachs, Oliver. *The Man Who Mistook His Wife for a Hat and Other Clinical Tales.* New York: Simon & Schuster, 1985.

Schachter, Daniel. *Searching for Memory: The Brain, the Mind, and the Past.* New York: Basic Books, 1996.

Fiction with a biological bent:

Barrett, Andrea. *Ship Fever and Other Stories.* New York: W.W. Norton, 1996.

For a sample of some of these Web sites, see http://jhunix.hcf.jhu.edu/~setmentr/links_51.html

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To my surprise, the whole situation fascinated me: how the blood wasn't pumped into him, but dripped slowly from the bags into the tubing; how he was totally aware the whole time; how each moment he seemed to become stronger and more animated. When the procedure was over, he asked that I be allowed to escort him to his family. I pushed his wheelchair to the parking lot, where he thanked me for all I had done. It's impossible to describe the satisfaction I felt when he waved to me from the window of his family's car.

Volunteering has given me many valuable experiences, all of which have influenced my desire to pursue a career in medicine.

I was so inspired by this experience that I became involved in the blood drive effort. When the National Honor Society planned our school's annual drive, I became a student recruiter, urging people to consider the impact of donating blood. As expected, many students shrugged or claimed a fear of needles. I was pleased, however, to see most of these same people slowly consider what I had said and agree to sign up. The blood drive was the most successful ever at Apex High School.

Volunteering has given me many valuable experiences, all of which have influenced my desire to pursue a career in medicine. No other opportunity has taught me more effectively how to face unexpected situations and act accordingly. No other opportunity has allowed me to interact with so many people in my community. Most of all, no other opportunity has allowed me to have such a positive effect on other people's lives.

Darin Sugavanich

INTERNSHIP & VOLUNTEER OPPORTUNITIES IN BIOLOGICAL SCIENCES

Brandeis Summer Odyssey Science Research Internships
Rabb School
Brandeis University
P.O. Box 9110
Waltham, MA 02254-9110
(617) 736-3424

Brookhaven National Laboratory
Educational Programs
14 Brookhaven Avenue, Bldg. 438
Upton, NY 11973
(516) 282-7171

Dr. Bessie F. Lawrence International Summer Science Institute
American Committee for the Weizmann Institute of Science
51 Madison Avenue, Suite 117
New York, NY 10010
(212) 779-2500

High School Honors Science Program: Research Internship
Dr. Gail Richmond
Michigan State University
330 Erickson Hall
East Lansing, MI 48824-1034
(517) 353-2958

Interdisciplinary Program in Biological Sciences with Emphasis on Research
Rick Pomeroy
Division of Education-Science
University of California-Davis
Davis, CA 95616
(916) 752-0622

National Cancer Institute Student Research Training Program
National Cancer Institute
National Institutes of Health
Equal Employment Office
Building 31, Room 10A33
9000 Rockville Pike
Bethesda, MD 20892
(301) 496-6266

NIH Summer Internships
National Institutes of Health
Office of Education
10 Center Drive, MSC1158
Bethesda, MD 20892-1158
(301) 496-2427

Research Science Institute
Center for Excellence in Education
7710 Old Springhouse Road
McLean, VA 22102
(703) 448-9062
cee@pop.erols.com

Student Conservation Association
P.O. Box 550
Charlestown, NH 03603-0550
(603) 543-1700

Summer Research Training Program
Dr. Dudley Cox
Department of Biological Sciences
Pace University
1 Pace Plaza
New York, NY 10038
(212) 346-1895

Wisconsin Youth Apprenticeship Program
BioPharmaceutical Technology Center Institute
Contact: Karin Borgh
kborgh@promega.com
(608) 273-9737

Youth Conservation Corps
Human Resources Programs
U.S. Forest Service
U.S. Department of Agriculture
P.O. Box 96090
Washington, DC 22209
(703) 235-8834

For more information about internship and volunteer opportunities, see the following resources:

Directory of Student Science Training Programs for Precollege Students. Washington, DC: Science Service Inc., 1994. (202) 785-2255.

Gilbert, Sara Dulaney. *Internships: The Hotlist for Job Hunters.* Indianapolis: Macmillan, 1997.

Grand, Gail L. *Student Science Opportunities.* New York: John Wiley & Sons, Inc., 1994.

Higman, Susan, ed. *Jobs You Can Live With: Working at the Crossroads of Science, Technology, and Society.* Washington, DC: Student Pugwash USA, 1996. (202) 393-6555.

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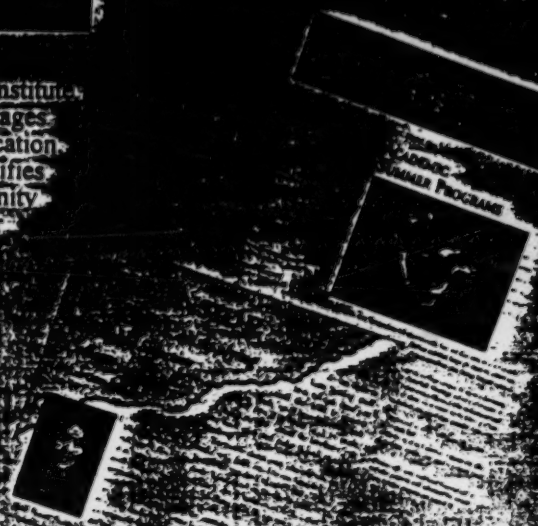

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XPE-6

Marine Science Workshop
Handout for Students

PREPARATORY STUDIES FOR ADVANCED DEGREES IN MARINE SCIENCE

It is recommended that college students who are seriously interested in marine science as a profession should choose a graduate school and consult with the dean of the school *as early in their college careers as possible* regarding an academic program to be followed. These courses are suggested by the School of Marine Science/Virginia Institute of Marine Science (VIMS) of The College of William and Mary.

In all disciplines an overall grade average of at least C+, with B (3 in a 4-point system) in the major field is desirable.

Recommended minimum courses for a student entering a masters program in Marine Biology (Biological Oceanography) or Marine Fisheries Biology are as follows:

General College Mathematics
College Algebra*
Calculus*
Introductory Biology*
Invertebrate Biology
Genetics*
Botany
Microbiology
Anatomy of Vertebrates*
Embryology of Vertebrates*
Physiology
Ecology or Field Biology*
General Chemistry*
Organic Chemistry*
Qualitative Chemistry
Quantitative Chemistry
Biochemistry*
General Physics*
Foreign Language
Statistics*

The prospective student of General Oceanography should have an undergraduate major in Physics, Meteorology, Chemistry, Mathematics, Geology or Engineering. Students specializing in the first three subjects should take Fluid Mechanics and Thermodynamics or similar subjects and have Mathematics through Differential Equations and Statistics.

Recommended minimum courses for a student entering a non-biological masters program in Marine Science are as follows:

1. Mathematics courses (required in all cases)
   General College Mathematics*
   College Algebra*
   Analytical Geometry*
   College Trigonometry*
   Calculus*
   Statistics*

2. Majors in Chemical Oceanography should have the Mathematics courses listed above, plus

   General Chemistry*
   General Physics*
   Quantitative Analysis*
   Qualitative Analysis*
   Organic Chemistry*
   Introduction to Physical Chemistry

3. Majors in Physical Oceanography should have the Mathematics courses listed above, plus

   General Physics*
   Advanced Calculus*
   Differential Equations
   Vectors Analysis
   Mechanics*
   Thermodynamics
   Electricity and Magnetism*
   Acoustics*
   Optics

Subjects marked with an asterisk (*) should be completed before entrance to VIMS.

VIMS
Virginia Sea Grant College Program

ON BECOMING A SCIENTIST :

AN ESSAY FOR HIGH SCHOOL STUDENTS OR UNDERGRADUATES

You are wise to seek information early about a career in science. First of all, you should be aware that to be a top-level research scientist of any kind or a member of an academic faculty at a university requires a Ph.D. degree. In terms of a time commitment, this is four to six years after the award of a bachelor's degree. A lesser degree, the master's degree, which comes before the Ph.D., provides a reasonable entree into the more technical aspects of science, such as running experiments for a scientist or doing field work or working as some sort of advisor in the state or federal government, and it takes from two to four years depending on local circumstances.

Becoming a scientist, therefore, is a long-term commitment, but knowing that it takes time can be an enormous help to you in preparing your undergraduate background. The reason is simple: you need not rush to take courses in science in everything that interests you if you know you are going to be in college for six to nine years. There will be plenty of time to take advanced science courses. Rather, take all the fundamental courses (math, chemistry and physics) as early as possible because they are tools needed for advanced work, and fill in the rest of your time with courses designed to make you an educated person– English, history, literature, foreign language, etc. You will, of course, have to select a major field such as geology, biology or chemistry. When you do, get advice about which of the courses are fundamental and be sure you take those first. For example, if you decide to be a biologist, then take physiology, genetics (cell biology), vertebrate and invertebrate biology and botany for certain. If you decide to be a geologist, take geomorphology, structural geology, mineralogy, petrology and sedimentation. You should come thoroughly grounded in fundamentals; learn how to read and write, and the advanced work in graduate school will be much easier.

- *A hidden strength of the above background is that you will have enormous flexibility to change fields if you find you made a mistake in selecting a major.*
- *What are some of the courses you should have before you enter graduate school?*
- *Mathematics through differential equations;*
- *Two or three courses in statistics - time series is very useful;*
- *Three or four courses in chemistry; and*
- *A full year of physics, a second year would be excellent.*

These are the basic tools which will prepare you for advanced work in science, but there are two additional areas which are extremely valuable for marine scientists: fluid mechanics and thermodynamics. The ocean after all is composed of a fluid, and it acts like a huge heat engine. You cannot take these courses unless you have had fundamental math, chemistry and physics.

No matter which field you end up in you will find courses in biochemistry, biophysics, organic chemistry, electronics, computer science and advanced statistics useful.

Given the nature of education today, some of these courses can be taken in high school. The real objective for a potential scientist, however, is to become educated at the undergraduate level and specialized at the graduate level.

College? Our program here at the School of Marine Science is for graduate students only, but almost any reasonably good four-year college teaches the undergraduate background mentioned here. For graduate school, however, one really has to be careful to choose a school with the best excellence affordable in one's chosen field. Begin your search when you are a junior.

You will note that an undergraduate major in Marine Science is not recommended. The message is to become a good biologist, geologist, or physicist at the undergraduate level and then move on into the specialized field of Marine Science at the graduate level. Again, the key to all of this is to become quantitative. No scientist is going anywhere in the twenty-first century unless he/she knows the rules of quantification.

Finally, one often asks about financial aid. Past experience shows that thoroughly prepared good students will receive aid. One of the main criteria used to select the best students is to look at their breadth of studies in math, chemistry and physics. It might sound a bit dull, but like anything that is demanding, be it dancing, music or science, careful preparation is mandatory for professional performance.

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11/92

Sea Grant MAS NOTE
From the University of Delaware Sea Grant Marine Advisory Service
The Graduate College of Marine Studies • University of Delaware • 700 Pilottown Road • Lewes, DE 19958

Distributed by the
Sea Grant Marine Advisory Services
Virginia Institute of Marine Science
Gloucester Point, VA 23062

MARINE CAREERS: The Scientist

by William R. Hall, Education Specialist (302) 645-4346
Elizabeth A. Chajes, Marine Outreach Specialist (302) 831-8083

Like people who work at other Sea Grant Colleges and marine institutions, we receive many calls from people who want to find out more about careers related to the ocean. Some are interested in careers like commercial fishing or diving, but most callers want to know how to become marine scientists.

Many people associate marine science only with marine biology. However, marine science, or oceanography, includes many other exciting careers. There are several thousand marine scientists at work in the United States today. Approximately 40% are employed with state and federal government, 30% in universities and colleges, and 30% in private industry.

If you think you'd like to be a marine scientist, the following information should help you prepare for your future career. If you find out that marine science isn't for you, but you still want to work on or near the ocean, don't give up. There are dozens of rewarding careers related to the sea. Check out our video called "Marine Careers" and the other resources listed at the end of this note for information about work in other marine fields.

Launching a Career in Marine Science

Ocean careers are usually extensions of land careers, and oceanography is no exception. Remember, oceanography is a *science*. Marine scientists are physicists, chemists, biologists, geologists, and engineers who specialize in the ocean. The marine scientist's job is to rigorously gather and analyze information about the ocean. Like all scientists, marine scientists need a lot of training and should possess a good supply of curiosity and perseverance.

Aspiring marine scientists should start preparing for their careers in junior and senior high school by taking math through calculus and whatever science courses are available, including computer science. It's also not too early to begin seeking experience in the marine environment. Programs offered by organizations such as the National Audubon Society, Outward Bound, universities, regional environmental centers, or Sea Explorers, a co-ed branch of the Boy Scouts, can provide many valuable experiences, often over the summer. If you live near an aquarium or seaside park, try volunteering in their education programs. Talk to people with scientific or marine-related careers whenever you can.

When choosing a college, high school students shouldn't be concerned with whether or not the institution has a program in oceanography. Most major marine science programs are taught only at the graduate level, so you can make that decision later. Select an undergraduate school based on the merits of its science and math programs. Graduate schools seek students with diverse backgrounds in math,

physics, chemistry, biology, geology, or engineering, so you'll want to major in one of these subjects and include coursework in the others. If you've been well-prepared in at least one of these areas, graduate schools know they can teach you marine science. It won't hurt, however, to choose electives related to the ocean whenever possible to help prepare for your graduate career.

Graduate schools are dynamic institutions whose natures depend heavily on the interests and abilities of the faculty who work there. If possible, visit the schools you're interested in and meet some of the faculty and students. You might ask questions like these: What courses are offered, and how will they help me pursue my research interests? What kind of jobs do the alumni of the program have? What kind of financial assistance is available? Most graduate students are supported through teaching or research assistantships or scholarships.

Your first goal in graduate school will be to gain a solid base of knowledge in marine science. But then you will shift from finding out what others have already learned about the ocean to finding out what no one else has yet learned. You will conduct experiments to gain new knowledge and write up your results in the form of research papers, a master's thesis, or a doctoral dissertation (so don't ignore your English classes!) You'll work closely with a single faculty advisor for two to five years, depending on the degree you're seeking. Choose your advisor with care since his or her guidance is critical to your career. Look for someone whose interests match yours, whom you feel comfortable with, who has a good reputation among other scientists and a demonstrated ability to garner research funding and produce results.

Specializations in Marine Science

Many graduate schools divide marine science into five major specialties: marine biology, marine chemistry, marine geology, physical oceanography, and ocean engineering. As a student, you'll be required to specialize in one of these areas, but they are highly interconnected, so knowledge in one or more of the other areas is usually necessary.

Marine Biologist. Marine biologists study the plants and animals of our estuaries, coasts, and oceans, ranging from giant marine worms that inhabit hot, deep-sea hydrothermal vents to microscopic algae and bacteria that inhabit the sea's surface layer. New marine species are discovered every year because so much of the ocean remains unexplored. Marine biologists want to know how these organisms work and how they interact with each other and their environment. The hottest area in marine biology right now is molecular biology—the study of the biochemical processes that take place inside living cells. Opportunities for marine biologists are as varied as the life in the sea, but also as specialized. This field is the most competitive of the marine sciences and the most difficult in which to secure a job. For example, only a handful of positions are available for those who want to study whales and dolphins. Don't let that stop you from pursuing this field if it's your true dream. Just maintain a realistic view and a backup plan.

Marine Chemist. You might think of the ocean as a big test tube containing many organic and inorganic compounds dissolved in water. These compounds may interact, or be used by ocean life, or precipitate to the bottom, or have any number of different fates. Assessing their fate is the marine chemist's work. Ocean pollution offers new challenges to this profession. Other marine chemists and biochemists are searching for natural products from the ocean for food production, industrial applications, and the prevention and cure of diseases. Opportunities for marine chemists are good and probably will improve as the search for natural products continues and we try to ascertain our impact on the oceans.

Marine Geologist. The bottom of the ocean, three quarters of the Earth, was once thought to be of little interest or value. But in the last few decades, we've begun to search the ocean floor for mineral wealth (oil, sand, gravel, metals, and, yes, even gold and diamonds), as well as for the historical information that is preserved in the minerals' composition and structure. Marine sedimentologists, paleontologists, and geophysicists can interpret sedimentary records to unravel the history of Earth's evolution and related changes in the global environment. Recent concern about global warming and related sea-level rise and coastal erosion has benefited from the work of coastal and marine geologists. The outlook is good, particularly in the area of coastal studies.

Physical Oceanographer. Currents, waves, bay and coastal circulation, world climate, and the interaction between the atmosphere and the ocean all have one thing in common—they are studied by physical oceanographers. These scientists look at the physical properties and movement of the water in the sea and examine how they influence our environment. Some physical oceanographers take a global perspective, looking at the Earth as a whole, while others look at regional systems, like an estuary. As with many areas of the marine sciences, the physical oceanographer is sometimes part of a team composed of other specialists, such as marine biologists or chemists. These scientists may work together on a project involving circulation and how it influences the presence of certain species of fish or the pollution of an estuary. Physical oceanographers have the most enviable position of all marine scientists. This is where the most jobs and research money are available.

Ocean Engineer. Whether it's solving a beach erosion problem or designing an offshore drilling rig, ocean engineers face unique challenges. The engineer's job is to find solutions that will enable humans to work with or live in the marine environment. Marine structures and machinery encounter situations and environments not present on land. Corrosion, water pressure, sedimentation, storms, and a host of other variables challenge not only design, but also materials and construction. One of the main concerns of ocean engineers is the development of instruments for gathering information from the sea, including underwater vehicles and sensors. In this regard, the work of the ocean engineer is invaluable to other marine scientists who depend on these methods of gathering the data they need. Some engineers work with satellite systems that gather information about the oceans from the vantage point of space, a process called remote sensing. Others work to create models that predict the effects of wave action on the beach or devise ways of harnessing wave or tidal energy. Ocean engineers form a relatively new branch of marine science, but they will always be needed as long as there are problems to be solved in working with the ocean.

Marine Policy Specialist. Some graduate schools also offer training in a related area—marine policy, or the study of how government decisions regarding the management and use of marine resources are made. Since good policies depend on accurate scientific information, marine science and marine policy intertwine. Marine scientists are often called upon to make policy recommendations, and those employed with the federal government may advance to levels where they make important national policy decisions. Policy study can therefore add an important dimension to your work as a marine scientist or could become a career choice in itself.

A career in marine science, a related field like marine policy, or one of the many other marine fields can be both challenging and satisfying. A list of resources that can help you learn more about these fascinating careers follows on the next page.

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Sources of Marine Careers Information

Information Sheets and Packets

Careers in Fisheries. Available free from the American Fisheries Society, 5410 Grosvenor Lane, Bethesda, MD 20814-2199.

Careers in Marine Science. Available free from the National Aquarium in Baltimore, Dept. of Education and Interpretation, Pier 3, 501 East Pratt Street, Baltimore, MD 21202-3194; 410-576-8689.

Planning a Career in Fish and Wildlife Management. Available free from the New Jersey Dept. of Environmental Protection; Division of Fish, Game, and Wildlife; CN 400; Trenton, NJ 08625-0400; 609-292-2965.

Training and Careers in Marine Science: An Information Packet. Available for $5.00 from the International Oceanographic Foundation, 4600 Rickenbacker Causeway, Miami, FL 33149.

Strategies for Pursuing a Career in Marine Mammal Science. Produced by the Society for Marine Mammalogy and the Marine Mammal Commission. Available free from Allen Press, P.O. Box 1897, Lawrence, KS 66044-8897; 800-627-0629. Also on the World-Wide Web at *http://www.rtis.com/nat/user/elsberry/marspec/mmstrat.html.*

Career Opportunities in the Sciences: An Introduction. A 15-page listing of career guides in the sciences compiled by the Directorate for Education and Human Resources Programs, American Association for the Advancement of Science, 1333 H Street, N.W., Washington, DC 20005.

Articles

Chase, V. "I'll Do Anything to Work with Whales or Dolphins!" *Current* 11(1): 31–33. This article is one in a series by the same author that has appeared in *Current* since 1991. Consult back issues of this journal for profiles of other marine careers.

Rosendahl, B. "Becoming an Oceanographer." *Sea Frontiers* 36: 3.

Wunsch, C. "Marine Sciences in the Coming Decades." *Science* 259: 296–297.

Books

Adams, S., and T. Crago. *Marine Science Careers: A Sea Grant Guide to Ocean Opportunities.* A 40-page booklet produced jointly by the Maine/New Hampshire and Woods Hole Oceanographic Institution Sea Grant programs. Available for $5.00 from either program: Sea Grant Communications, Kingman Farm, University of New Hampshire, Durham, NH 03824-3512 (checks payable to UNH); or WHOI Sea Grant Communications, 193 Oyster Pond Road, CRL 209, Woods Hole, MA 02543-1525 (checks payable to WHOI).

Burtis, W. S. *Ocean Opportunities: A Guide to What the Oceans Have to Offer.* A 32-page, color booklet available for $3.00 from the Marine Technology Society, 1730 M Street, N.W., Washington, DC 20036; 202-775-5966.

Careers in Oceanography and Marine-Related Sciences. Single copies of this 24-page color booklet are available free from the Oceanography Society, 4052 Timber Ridge Drive, Virginia Beach, VA 23455; 804-464-0131. Includes excellent lists of resources and a special section for people with disabilities.

Heitzman, W. R. *Opportunities in Marine and Maritime Careers.* 2nd ed. Lincolnwood, IL: National Textbook Company, 1988. A comprehensive book on marine careers including transportation, industry and technology, recreation, military service, science, and others. Available in many school libraries.

Herriott, J. A., and B. G. Herrin. *Summer Opportunities in Marine and Environmental Science.* 1994. A guide to jobs, internships, and study, camp, and travel programs for high school and college students. Available for $14.95 plus $2.00 shipping and handling from Summer Opportunities Guide, 38 Litchfield Road, Londonderry, NH 03053.

University Curricula in Oceanography and Related Fields. Updated in 1995, this guide is available for $6.00 from the Marine Technology Society, 1730 M Street, N.W., Washington, DC 20036; 202-775-5966.

U.S. Dept. of Labor. Bureau of Labor Statistics. *Occupational Outlook Handbook.* Washington, DC: GPO. This document is updated every two years and can be found in the reference department of most libraries.

Audiovisuals

Marine Careers. VHS, 18 min. 1992. University of Delaware Sea Grant Marine Advisory Service. Includes segments on marine technology, marine transportation, uniformed services, marine resource management, recreation and tourism, commercial fishing, and marine science. Available for purchase ($15.00) or rental ($5.00 plus $25.00 refundable deposit). Send request with check payable to the University of Delaware to the Marine Communications Office, University of Delaware, Newark, DE 19716-3530. Call 302-831-8083 for more information.

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Sample Parent Workshop Handout

Encouraging Girls in Mathematics and Science

Dana T. Johnson

Center for Gifted Education
School of Education
The College of William and Mary
Williamsburg, Virginia 23187-8795
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Focusing on the Future:
A Career and Academic Planning Experience for High Ability Students in Grades 6-12

January 24, 1998

Things to Do to Encourage Girls in Math and Science

- Provide hands-on experiences: games, sports, puzzles, tools, blocks, building sets.
- Include your daughter in household problem-solving tasks, especially spatial tasks
- Encourage hobbies: photography, collections (butterflies, shells, rocks,...), building models, sewing.
- Allow girls to get messy.
- Provide female role models; career exposure.
- Foster independence and self-confidence in household tasks and schoolwork.
- Teach your sons to take on an equal share of domestic and family responsibilities.
- For young children, spend as much time on math skills as reading skills at home.
- Check your own attitudes about math, science, and technology.
- Be aware of what is offered through your school;
- You need support from the school; find out what they are doing to encourage girls in math and science; discuss your concerns with your daughter's school.
- Encourage four years of high school math and science courses; have the same expectations for daughters as sons; remember that math is the critical filter for many fields.
- De-emphasize grades but encourage participation.
- Supplement the school experience (museum visits, TV science specials, summer programs, computer classes).

Encouraging Girls in Math and Science
Resources

The Book of Think or How to Solve a Problem Twice Your Size, by Marilyn Burns (Little, Brown)

Games for the Superintelligent, by James Fixx (Doubleday)

Games, a magazine that is published every other month. (PO Box 605, Mount Morris, IL 61054-7789)

How to Encourage Girls in Math and Science, by J. Skolnick, C. Langbort, and L. Day (grades K-8; available from Dale Seymour Publications)

Krypto , a card game that encourages number sense, computational skills and problem solving. (available from Dale Seymour Publications, 1- 800-872-1100)

Math Equals: Biographies of Women Mathematicians and Related Activities, by Teri Perl (Addison-Wesley)

Math for Girls and Other Problem Solvers, by Diane Downie, Twila Slesnick, and Jean Kerr Stenmark (Lawrence Hall of Science, UC Berkeley)

Math for Girls: The Book with the Number to Get Girls to Love and Excel in Math! by Carole Marsh (Gallopade Publishing Group)

Mathematical Carnival, by Martin Gardner or any other books by Martin Gardner

Mathematics: A Human Endeavor, by Harold Jacobs (W.H. Freeman & Co.)

The New York Times (The Tuesday paper includes a science section.)

Science News, a biweekly science magazine.

Set, a card game that encourages visual discrimination. Website: http://www.goodnet.com/~setgame/

College Planning

Sandra Berger
The Council for Exceptional Children
The ERIC Clearinghouse on Disabilities and Gifted Education
1920 Association Drive
Reston, VA 20191
Voice: 800-328-0272 703-264-9475
E-mail: ericec@cec.sped.org

Giftedness: A Double-edged Sword

All adolescents experience problems centered on finding and identifying friends, a course of study, and eventually, a career. Defining a personal identity, peer relationships, decision-making, and ultimately choosing a career may be more complex for gifted adolescents because of the characteristics that often accompany giftedness.

- *Multipotentiality.* A wide variety of aptitudes, interests, and skills that may be developed to a high level of proficiency.
- *Competing Expectations.* The "pull" of an adolescent's own expectations often swim against the strong current posed by the "push" of others' desires and demands, causing conflict between self-fulfillment and pleasing adults or peers. The dilemma is often complicated by the numerous options within the reach of a highly talented student.
- *Uneven intellectual and social/emotional development.* A student may be able to create products far more advanced than his or her age-mates, while failing to make decisions, and establish both short- and long-term goals.
- *Ownership.* Some gifted students have difficulty owning their abilities. They often question the validity and reality of the abilities they possess.
- *Dissonance.* By their own admission, talented adolescents are often perfectionists. They often experience real dissonance between what is actually done and how well they expected it to be accomplished.
- *Fear of failure.* Some bright adolescents are much less likely to take chances than others. They may reject activities that carry some risk (e.g., advanced placement courses, stiff competitions, public presentations).
- *A sense of urgency or impatience.* Young adolescents are particularly intolerant of ambiguous, unresolved situations. Their impatience with a lack of clear-cut answers, options, or decisions drives them to seek answers where none readily exist.

From Berger, S. (1994) College Planning for Gifted Students, second edition. Reston, VA: The Council for Exceptional Children.

Gifted Adolescents .....

- are unique in many ways; their intellectual and social and emotional characteristics often create unusual needs.

  The further these students are from the norm, the more they differ from each other in talents, abilities, interests, and needs.

  The assistance they require is as specialized as their characteristics are varied.

- can conceptualize, see alternatives, and formulate diverse patterns and relationships. Their advanced intellectual abilities do not necessarily mean that:

  - they are as advanced in social and emotional areas as they are intellectually.
  - they know how to manage and direct their intellectual abilities.
  - they can set long-term goals.
  - they know how to study, or are taught in appropriate ways, or
  - they perform consistently.

Parents can help by .....

- understanding the characteristics and needs that often accompany giftedness.
- understanding how their problems and needs complicate college and career planning.
- understanding the elements of the college planning process.
- providing information, support, and encouragement at the right time.

Counselors, teachers, and parents and can help by:

- understanding their problems and needs.
- understanding how their problems and needs complicate college and career planning.
- understanding the elements of a substantive college- and career-planning program for these students, and
- using the information provided to design and implement a program that includes *all* gifted students, and is flexible, yet substantive.

From Berger, S. (1994). *College Planning for Gifted Students*, second edition. Reston, VA: The Council for Exceptional Children

DEVELOPMENTAL CHARACTERISTICS OF GIFTED ADOLESCENTS

Characteristic	*May be*	*seen as*	*Examples of*	
INTELLECTUAL DEVELOPMENT	*Positive*	*Negative*	*Dilemmas/Needs*	*Counseling Implications*
Convergent	Sequencing Highly retentive	Unable to take risks	May remain a "mapper"	Needs help defining essay and open- ended questions; needs help defining long term goals
Divergent	Creative/innovative A risk-taker	Unable to evaluate consequences of risks	May remain a "leaper"	Needs help defining steps, organizing college planning needs and materials; needs strong encouragement to carry out activities
Concrete	Having wealth of specific information	Providing nonessential information	May not establish priorities May not define tasks	Needs to hear broad, overarching issues defined by others in a group
Abstract	Understanding and creating structure	Rejecting essential detail	May not sequence work May not complete entire task	Needs help to develop a plan and a system for organizing college planning material and activities
Analytical	Evaluative of evidence	Judgmental of people	May become unwilling to compromise	Needs help to keep an open mind regarding alternatives; needs strong encouragement to apply to a range of colleges
Structuring synthesizer	Forming ideas into coherent structure or framework	Ignoring elements that do not fit structure or enhance frame work of ideas	May not be able to consider ideas that provide challenge to structure	Needs help organizing college planning needs and materials; needs highly specific planning timeline

DEVELOPMENTAL CHARACTERISTICS OF GIFTED ADOLESCENTS

Characteristic	*May be Seen as*		*Examples of*	
SOCIAL and EMOTIONAL DEVELOPMENT	*Positive*	*Negative*	*Dilemmas/Needs*	*Counseling Implications*
Multidimensional	Having a wealth of talents	Overextended	May not establish priorities	Needs help linking personal goals to interests, skills, and values; needs energy and time to schedule college planning activities
Concentrated commitment	Highly productive Producing high-quality work	Totally focused on work	May become a workaholic	Needs help with realistic timeline and defining short- and long-term goals
Diffused Interest	Having broad range of interests	Unwilling to commit	May be considered an underachiever May not develop potential	Needs help identifying satisfying choices and long-term goals; needs help to clarify, identify and pursue appropriate colleges
Intensely focused	Having depth of understanding	Procrastinating Unable to complete projects	May require a great deal of time to complete projects	Needs help with realistic timeline for gathering information, etc.; needs help to establish realistic self-expectations
Outer locus of control	Sensitive Receptive Perceptive	Vulnerable Unable to make choices Overreactive	May be influenced by expectations of others May fear failure May become an underachiever	Needs help prioritizing ***own*** abilities interests, desires, college and career goals
Inner locus of control	Idealistic Reflective Resolute	Naive Self-absorbed Impenetrable	May need strong support for ideas May need strong support for self	Needs to share information and strategies with peers in group college planning workshops

atrix developed by ©Sandra Berger and Gail Hubbard

The College Planning Process

- **Gathering information**
- **Planning and choosing**
- **Campus visits**
- **Application**
- **Financial aid**
- **Decisions**

The Application

- Objective information–biographical data, academic performance, and standardized scores.
- Subjective information–extracurricular activities, essay or personal statement, recommendations, interview, and supporting material.

Note: Colleges also need a high school profile with course descriptions. BE SURE course descriptions accurately describe the rigor of each course. ("Honors" does not describe rigor.)

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How to Provide Support And Encouragement

Adults who are involved with college planning have an important role—becoming an informed consumer, and setting clear & realistic goals that reduce the pressure and keep things in perspective.

Some things to keep in mind

- **There is no such thing as the "perfect" school. The college experience, like life, is a series of trade-offs. Most students should be able to identify several different types of schools appropriate for them. This does not mean that they would have identical experiences at each school, only that their experiences would be equally positive. Selecting a college is one of the first adult choices of life. There are no perfect solutions, or clear cut alternatives.**
- **Be a guide on the side, not a sage on the stage. Be ready and able to demonstrate an understanding of the pressures these students are experiencing, and be ready to provide support.**
- **Know the critical skills your child needs to make major decisions.**
- **Understand how he or she defines the important characteristics of the ideal college.**
- **Help your child find specific institutions that meet his or her individual needs.**
- **Set clear & realistic goals that reduce the pressure and keep things in perspective.**
- **Think of yourself as a shepherd. Your job is to guide and protect. Some parents avoid interfering by withdrawing. Neither extreme is useful.**
- **Discuss college openly, gearing conversation toward what your son or daughter needs from a college and why-—city or country environment, emphasis on Greek life, sports, student/faculty ratio, class size, special programs, etc.**
- **Listen to your youngster. Pay particular attention to what attracts him or her to certain schools.**
- **Be aware of deadlines. If it appears that a deadline is nearing and nothing is happening, ask questions gently.**
- **DO NOT type applications, correct essays or call colleges for information.**
- **The college planning process should not be a finite event that begins and ends mysteriously or arbitrarily. It is part of a life development process in which there are no "right answers." The process is different for every person.**

From Berger, S. (1994). *College Planning for Gifted Students*, second edition. Reston, VA: The Council for Exceptional Children.

Student Financial Aid

U.S. Department of Education

DO YOU KNOW A STUDENT PLANNING TO ATTEND COLLEGE?

Chances are good he or she is also seeking financial aid. Several booklets from the Department of Education can help:

- "The 1997-1998 Student Guide: Financial Aid from the U.S. Department of Education" provides information about student financial assistance for the 1997-98 award year.
- "Funding Your Education 1997-98" is designed for high school students and others considering entering a postsecondary school for the first time.
- "Looking for Student Aid" helps find sources of free information about student aid and scholarship search services.
- "Instructions for Completing the 1996-97 Free Application for Federal Student Aid (FAFSA)" and "FAFSA Express" make the paperless financial aid application a reality. FAFSA Express is software you can download and transmit electronic forms to the Department of Education. Questions on FAFSA can be addressed FAFSA_ADMIN@ed.gov or FAFSA Express Customer Service Line at 1-(800)-801-0576.

These booklets tell "who to call" to learn more student financial aid. They also offer suggestions on how to...

- *choose* a college or university.
- *receive* federal grants, loans, and work-study funds.
- *apply* to a college, and when (the deadline).

These booklets (and more) are available on the Office of Postsecondary Education's homepage:

http://www.ed.gov/offices/OPE/

Free paper copies can be ordered by calling 1-800-4-FED-AID.

Below are the "Sources of Free Information About Student Aid"(from "Looking for Student Aid") and the first chapter of "The 1997-1998 Student Guide: Financial Aid from the U.S. Department of Education."

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"Sources of Free Information About Student Aid" (from "Looking for Student Aid")

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Where should I begin my search?

The financial aid office at the school you plan to attend is the best place to begin your search for free information. The financial aid administrator can tell you about student aid available from the federal government, your state government, the school itself, and other sources.

You can also find free information about student aid in the reference section of your local library (usually listed under "student aid" or "financial aid"). These materials usually include information about federal, state, institutional, and private aid.

Where can I get free information about federal student aid?

The major source of student financial aid is the U.S. Department of Education. Nearly 70 percent of the student aid that is awarded each year comes from the U.S. Department of Education programs (approximately $33 billion in 1994-95). Student aid is also available from other federal agencies, such as the U.S. Public Health Service and the U.S. Department of Veterans Affairs.

The free student financial aid materials available in the financial aid office at your school include The Student Guide, a free booklet about financial aid from the U.S. Department of Education, and the Free Application for Federal Student Aid (FAFSA). You may also request The Student Guide or the FAFSA by calling the Federal Student Aid Information Center toll-free:

1-800-4 FED AID (1-800-433-3243)
(TDD 1-800-730-8913)
Monday - Friday, 8:00am-8:00pm EST

The Center's operators can answer your questions about federal student aid programs, filing an application, and application processing.

The major sources of aid from the U.S. Department of Education are:

- Federal Stafford Loans
- Federal PLUS Loans
- Federal Direct Loans
- Federal Pell Grants
- Federal Supplemental Educational Opportunity Grants
- Federal Perkins Loans
- Federal Work-Study

You may apply for federal student aid from these programs at no cost by filing the Free Application for Federal Student Aid.

Most federal student aid is awarded based on financial need rather than scholastic achievement. For instance, most grants are targeted to low-income students. However, keep in mind that you do not have to show financial need to receive federally guaranteed loans such as PLUS or unsubsidized Stafford or Direct loans.

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Where can I get free information about state student aid?

Free information about state programs may be obtained from the state education agency (usually in the capital of your state).The Federal Student Aid Information Center also has information about many state student aid programs. Call the Center to get the phone numbers for your state.

What are some other sources of information about student aid?

Information about student aid may also be available from foundations, religious organizations, community organizations, and civic groups, as well as organizations related to your field of interest, such as the American Medical Association or American Bar Association. Check with your parents' employers to see if they award scholarships or have a tuition payment plan.

"Finding Out About Student Aid" (from "The 1997-1998 Student Guide: Financial Aid from the U.S. Department of Education")

The Student Guide tells you about federal Student Financial Assistance (SFA) programs and how to apply for them. Approximately two-thirds of all student financial aid come from federal programs administered by the U.S. Department of Education. After reviewing this Guide, if you still have questions about these programs, call 1-800-4-FED-AID (1-800-433-3243).

Education or training after high school costs more than ever. But postsecondary education is more important than ever, so you need to learn about as many sources of aid as you can. Sources you can use to find out about federal and other student aid are described below:

- The financial aid administrator at each school in which you're interested can tell you what aid programs are available there and how much the total cost of attendance will be.

- The state higher education agency in your home state can give you information about state aid -- including aid from the State Student Incentive Grant (SSIG) Program, which is jointly funded by individual states and the U.S. Department of Education.

- The agency responsible in your state for public elementary and secondary schools can give you information on the Robert C. Byrd Honors Scholarship Program (Byrd Program). To qualify for aid under the Byrd Program, you must demonstrate outstanding academic achievement and show promise of continued academic excellence.

For the address and telephone number of the appropriate state agency, contact your school's financial aid office or call: 1-800-4-FED-AID (1-800-433-3243).

- The AmeriCorps program provides full-time educational awards in return for work in community service. You can work before, during, or after your postsecondary education, and you can use the funds either to pay current educational expenses or to repay federal student loans. For more information on this program, call 1-800-942-2677 or write to: The Corporation for National and Community Service, 1201 New York Avenue, NW, Washington, DC 20525.

- Your public library is an excellent source of information on state and private sources of aid.

- Many companies, as well as labor unions, have programs to help pay the cost of postsecondary education for employees, members, or their children.

- Check foundations, religious organizations, fraternities or sororities, and town or city clubs. Include community organizations and civic groups such as the American Legion, YMCA, 4-H Club, Elks, Kiwanis, Jaycees, Chamber of Commerce, and the Girl or Boy Scouts.

- Don't overlook aid from organizations connected with your field of interest (for example, the American Medical Association or the American Bar Association). These organizations are listed in the U.S. Department of Labor's Occupational Outlook Handbook and are also listed in various directories of associations available at your public library.

- If you (or your spouse) are a veteran or the dependent of a veteran, veterans educational benefits may be available. Check with your local Veterans' Affairs office.

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Mon, 6 Jan 1997 16:53:19 -0500

Glossary

Academic Performance: The combination of a student's grade point average (GPA), class rank, transcript (i.e., list of courses taken), standardized test scores, and other available numerical information. Some large schools consider a student's high school academic performance record the only criterion for an offer of admission. Academic performance includes academic rigor, grade point average, class rank, official transcript, and high school profile or transcript supplement.

Academic Rigor: The relative difficulty of an academic course and the relative difficulty of all courses taken by a student during high school. Highly selective colleges expect a student to take the most rigorous curriculum offered.

Grade Point Average (GPA): Number usually computed by giving quality points to each letter grade (for academic and nonacademic courses) earned during high school and then dividing by the number of earned credits. Some school systems weight honors or Advanced Placement (AP) courses by awarding an extra fraction of a point to the course. Colleges frequently recalculate a student's GPA to reflect only academic courses.

Class Rank: Computation denoting a student's academic position in relation to classmates. Class rank is generally reported in terms of deciles, quarters, and/or thirds. Grade point average usually determines class rank. Some high schools eliminate a precise class rank, and where this is the case, the colleges may ask counselors or principals to compute an applicant's numerical rank to the nearest 10th from the top. Some colleges automatically reject applications submitted by unranked students. Other colleges assign unranked students a median number.

Official Transcript: Academic profile of the student. Transcripts should include a list of courses taken each year (including courses in progress), the rigor of those courses (AP, honors, accelerated), grades assigned for each course, GPA, and class rank (including how the rank is determined). Some transcripts list test scores such as PSAT and SAT; however, these are not considered official scores. Official scores must be sent directly from the College Entrance Examination Board (CEEB) or the American College Testing Program (ACT).

High School Profile, Course Description, or Transcript Supplement: Provides information to colleges about the high school program of studies, the grading system, and the makeup of the student body. The meaning of a student's transcript (grades) is partially explained by an effective profile that includes the percentage of students who go to 4-year colleges, the nature of the courses offered, and the grading scale. When a course title does not clearly reflect the rigor and significance of an academic course, an explanation should accompany the school profile and student transcript.

American College Testing Program's ACT Assessment: A content-oriented test, divided into four subject areas—mathematics, science, English, and social studies. Scores are reported on a scale of 1 to 36, with 36 the highest.

Advanced Placement (AP) Examinations: Examinations offered each May by participating schools to students who want to be tested at the college level in many areas including English, calculus, computer science, science, history, foreign languages, art, and music. Enrollment in an AP course is not required, and a fee is charged for each examination. AP tests are scored 1 to 5, with 5 high. Grades of 3, 4, or 5 on AP examinations may be considered acceptable for college credit or exemption from required courses. Each college or university decides how much credit will be awarded to the student. If a student takes an AP test, the student is responsible for ensuring that scores reach the college. AP test preparation is time consuming. Students should carefully consider the advantages and disadvantages of taking each test.

Advanced Placement (AP) Program: Program sponsored by the College Entrance Examination Board, and consisting of rigorous academic courses and examinations in 15 subjects. AP courses provide an opportunity for students to pursue college-level studies while still enrolled in secondary school, and demonstrate the student's capacity to handle college-level work. A high grade in an AP course is considered evidence of superior ability, even if a student chooses not to take the AP examination.

College: (1) A postsecondary school that offers a bachelor's degree in liberal arts or science or both, (2) Schools of a university offering the aforementioned degree programs.

Deferred Admission: Procedure that allows an accepted student to postpone admission to college for 1 year.

Early Admission or Early Entrance: Procedure that admits students of unusually high ability into college courses and programs before they have completed high school.

Early Action: Procedure whereby students submit credentials to colleges early, usually by November 1. Unlike early decision, a student admitted under early action is not obligated to enroll.

Early Decision: Procedure that gives special consideration to a student who applies for admission by a specified date. If admitted under early decision, the student has an obligation to matriculate. The student may not accept an offer of admission from another institution at a later date. Early decision applications are often due by November 1, and students are notified earlier than regular admissions applicants, generally by December 15. Early decision

applicants may be denied and reconsidered with the regular pool of applicants.

JETS National Engineering Aptitude Search: Examination that estimates a student's potential in the field of engineering. Anyone interested in this field should take the 3-hour JETS test. To locate test sites, check with local universities or write to JETS National Engineering Aptitude Search, United Engineering Center, 345 East 47th Street, New York, NY 10017. Students have received scholarships based on outstanding scores on this test.

Liberal Arts: Academic disciplines such as mathematics, science, language, history, literature, and philosophy. These programs are designed not to prepare a student for a profession but for the development of intellectual ability and judgment.

Preliminary Scholastic Assessment Test/National Merit Scholarship Qualifying Test (PSAT/NMSQT): A 2-hour version of the SAT-I Test. The PSAT is a screening mechanism for the National Merit Scholarship competition. In order to be considered, students must take the test in the fall of 11th grade and score in the top 5% of their state. Qualifying scores vary from state to state. For example, a score of 190 in Virginia may qualify a student as just a Commended Scholar. In another state the same score might be in the top 5% and qualify the student as a semifinalist. The PSAT is similar to the SAT and is therefore a good preliminary indicator of the student's potential SAT score. Calculation of the PSAT selection index is such that the verbal score is given twice the weight of the mathematics score. PSAT scores are also used for the National Merit Hispanic Scholarship and the National Achievement Scholarship Program for Outstanding Negro Students.

ROTC: Reserve Officers' Training Corps, sponsor of programs offered at certain colleges in conjunction with the Air Force, Army, and Navy. Tuition, books, and fees are subsidized by the military, and the student also receives a stipend to help cover personal expenses. Upon graduation, students receive a commission in the military service. Students may be obligated to serve a specified number of years in the military after graduation.

Regular Admission: Admission to a college in the usual manner. Students must submit an application by a specified date, and a decision is made by the college after it has received most of its applications (approximately February 15 to April 15). All applicants are informed at about the same time, although this varies with the college.

Rolling Admission: Admission to a college whereby students may submit an application at any time during the year. A decision is usually made by the college within a few weeks after application and transcript are received.

SAT-I Test (Scholastic Assessment Test): A 3-hour test divided into two sections, verbal and mathematics. Scores are reported on a scale of 200 to 800 in each section. The SAT is a "leveler": When colleges are unfamiliar with a student's high school and school district, SAT scores tell them how the student compares to all other students who took the test on the same day.

SAT-II: Subject Tests (formerly Achievement Tests): One-hour tests similar to final examinations in a variety of academic subjects such as mathematics, science, history, language, literature, and writing. Subject Tests are designed to measure the extent and depth of a student's knowledge of the subject. Students are expected to study for Subject Tests. These tests are sometimes required by colleges and used for placement in freshman courses. Colleges may require a certain combination of them (e.g., engineering students must submit both mathematics and science Subject Test scores as well as the writing test). Subject Tests should be taken at the end of any course in which the student is doing well, regardless of the student's age and grade. Students may take up to three tests per session.

SAT Preparatory Courses: Courses taken to prepare a student for the SAT. In the past it was commonly assumed that coaching did not affect a student's performance on the SAT. More recently, the reverse has been demonstrated: Students have been able to raise their scores significantly by practicing test questions, reducing test-taking anxiety, and learning how to pace themselves. If a student is a poor test-taker, enrolling in a preparatory course might be of benefit. However, there appears to be a strong correlation between the breadth of a student's reading and his or her success on the verbal section of the SAT. Students who focus on mathematics and science at an early age may find it difficult to raise their verbal scores. Students who contemplate an SAT preparatory course should look for one in which the instructor will analyze the student's answer sheet and provide the student with specific information regarding academic strengths and weaknesses.

Time Structure: Division of the academic year into various parts for administrative purposes. The usual divisions are as follows:

Quarter System: Divides the 9-month academic year into three equal parts of approximately 12 weeks each. Summer sessions are usually the same length. Credits are granted as quarter hours (3 quarter hours = 2 semester hours).

Semester System: Divides the academic year into two equal segments of approximately 18 weeks each. Summer sessions are shorter, but they require more intensive study.

Trimester System: Divides the calendar year into three segments, thereby creating a continuous academic calendar of three semesters, each approximately 18 weeks in length. Credits are usually granted in semester hours.

University: A postsecondary school consisting of teaching and research facilities comprising a graduate school or professional schools. Universities offer master's degrees and doctorates as well as undergraduate degrees.

From Berger, S. (1994) *College Planning for Gifted Students.* Reston, VA: The Council for Exceptional Children

College Planning Internet Resources

Advantages of Internet Use

- Find a variety of ways to begin the college planning process.
- Select a group of colleges that match your criteria.
- Get college admission office addresses and telephone numbers instantly.
- Get comprehensive information about the colleges you select.
- Send an online application.
- Search for financial aid availability.
- Access college major and career planning information.
- Chat with other prospective applicants or alumni.

Note. Students should avoid using the Internet for sending last minute electronic applications because of the risks. For example, a university's server might not be working, or heavy "traffic" might interview with electronic transmission or even disable a university's server computer.

SAT and ACT Test Preparation

- ACT
  ACT, Inc. is an independent, nonprofit organization that provides educational services to students and their parents, to high schools and colleges, and to professional associations and government agencies. They are best known for their college admissions testing program.
  URL: http://www.act.org/
- The College Board
  The College Board offers substantive information, test taking tips, and sage advice about both the SAT-I and SAT-II, and others tests as well.
  URL: http://cbweb1.collegeboard.org/sat/html/students/prep000.html
- Educational Testing Service (ETS)
  ETS Net is a gateway to information about college and graduate school admissions and placement tests, with links to AP, GRE, GMAT, LSAT, SAT, The Praxis Series, and TOEFL sites, as well as other educational resources. ETS Net provides sample test questions, test preparation, and test registration. It also contains information on ETS research initiatives, teacher certification, college planning, financial aid, and links to college and university sites.
  URL: http://www.ets.org/
- Princeton Review
  Take an online SAT, check results and analyses of previous SATs, learn test-taking tricks, and much much more. A career inventory is linked <http://cgi.review.com/birkman/birkman.cfm> to the Princeton Review for students who are thinking in that direction.
  URL: http://www.review.com/college/
- Testprep
  PSAT and SAT Prep, sponsored by Stanford Testing Systems, Inc. When users follow the instructions for taking a pr[illegible]st, Stanford Testing Systems software will diagnose weak areas and provide specific questions to strengthen scores.
  URL: http://www.testprep.com/index.html

College Planning Internet Sites. (This list is not intended to be comprehensive.)

- College Board Online
  The College Board is a national membership association of schools and colleges whose aim is to facilitate the student transition to higher education. They offer information tailored to

students, parents, and teachers. Users can register for and practice for SATs. Financial aid information is available.
URL: http://www.collegeboard.org/

* College Board's new ExPAN is an information and search site where you can use a variety of criteria to find the right college.
  URL: http://www.collegeboard.org/csearch/bin/ch01.cgi

- College Choice Website
  This is a very comprehensive college planning web site hosted by the Graduate School of Education and Information Studies at UCLA. The information is categorized in an easy to use format, which makes it an ideal place to start.
  URL: http://www.gseis.ucla.edu/mm/cc/home.html
- CollegeScape
  A source of information about highly selective colleges and universities. This organization charges each college $1,500 when a student uses the online application, so the colleges listed are those that can afford to and want to pay a service fee.
  URL: http://www.collegescape.com/
- College and University Home Pages
  This site is a link to more than 3,000 college and university home pages.
  URL: http://www.gse.ucla.edu/mm/cc/links/schools.html
- The Consumer Information Center in Pueblo, Colorado
  An informative publication, "Preparing Your Child for College," is available through the Internet from the electronic arm of the Government Document Distribution Center in Pueblo, Colorado.
  URL: http://www.pueblo.gsa.gov
- Duke University Talent Identification Program (TIP)
  TIP's college planning pages include a wonderful FAQ titled "Dear Admissions Guru" that answers many common questions and a useful college search engine.
  URL: http://www.jayi.com/ or http://www.jayi.com/ACG/ques.html
- Go College
  A commercial site that offers SAT practice tests on announced dates. They also offer simple and advanced searching for colleges that match the user's criteria, and, for a fee, other services such as a searchable scholarship database.
  URL: http://www.gocollege.com/
- Kaplan Education Center
  This site, sponsored by Kaplan Test Preparation, provides a great deal of information about starting the college process. PSAT, SAT and ACT information and sample test questions are available plus timely information on the college admissions process.
  URL: http://www.kaplan.com/precoll/
- Lycos
  Lycos is an index that lists college home pages by geographic location.
  URL: http://a2z.lycos.com/Education/College_Home_Pages/
- Petersons
  Petersons is one of the most comprehensive college planning sites. They have a search engine that allows the user to type in criteria and search for colleges that match. Financial aid information is included in their extensive offerings.
  URL: http://www.petersons.com/
- Princeton Review
  Offers a search engine that lets you type criteria and then looks for schools that match. They also have a listing of "best" schools.
  URL: http://www.review.com/college/
- The Texas Guaranteed Student Loan Corporation (TGSLC):
  The Texas Guaranteed Student Loan Corporation (TGSLC) makes a great deal of information available to help prospective college students prepare for college. Its information includes

career planning and college selection information. The Internet site is titled Adventures in Education.
URL: http://www.tgslc.org

- USNews (school rankings by category)
  URL: http://www.usnews.com/usnews/fair/home.htm
  URL: http://www.usnews.com/usnews/fair/RNK_MAIN.HTM
- Yahoo's College Select (information on colleges and the college planning process)
  One of the large directories of information, Yahoo has an information page on Education and has additional pages with information about preparing for college and about paying for college. They also provide information about College Honors Programs.
  URL: http://yahoo.com/Education/
  URL: http://www.yahoo.com/Education/Higher_Education/Honors_Programs

Financial Aid

- College Guides and Aid
  A commercial site that offers some free services, some services for a fee, and an online college planning bookstore with book reviews.
  URL: http://www.collegeguides.com/
- Counseling Resources
  URL: http://www.cybercom.com/~chuck/guide.html#B
- FastWEB
  This commercial site offers an extensive searchable database of sources for financial aid, including work study, scholarships, fellowships, internships, grants, and loans. Their services are advertised as free.
  URL: http://www.fastweb.com/
  URL: http://web.studentservices.com/fastweb/
- The Financial Aid Information Page
  This site is sponsored by the National Association of Student Financial Aid Administrators and has links to a wide selection of financial aid sources.
  URL: http://www.finaid.org/
  URL: http://www.cs.cmu.edu/afs/cs/user/mkant/Public/FinAid/finaid.html
- The Illinois Student Aid Commission (ISAC):
  The Illinois Student Aid Commission (ISAC) also provides information about preparing and paying for college.
  URL: http://www.isac1.org
- The Student Loan Marketing Association (Sallie Mae):
  The Student Loan Marketing Association (Sallie Mae) is a provider of financial services and operational support for higher education. Use the address below to access information offered by Sallie Mae on planning for college.
  URL: http://www.salliemae.com
- U.S. Department of Education Office of Postsecondary Education
  Offers a students guide and other useful information.
  URL: http://www.ed.gov/offices/OPE/index.html
  URL: http://www.ed.gov/prog_info/SFA/ StudentGuide
- US News Online
  URL: http://www.usnews.com/usnews/edu/?/home.htm

Other Useful and Interesting College Planning Sites

- A Comprehensive List of Distance Learning Sites
  http://talon.extramural.uiuc.edu/ramage/disted.html
- CampusTours
  A guide to virtual tours at colleges and universities around the nation.

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URL: http://www.campustours.com/

- Chuck Eby's Counseling Resources
  The owner of this site provides a long list of links to college planning sites categorized into Preparation, College Search and Information, College Information, and Special (e.g., historically black colleges and Business Trade & Technical Vocational Schools). Users will also find sources for study skills, financial aid information, career information, and resources for counselors and parents. The information has been kept up to date and is easy to use.
  URL: http://www.cybercom.com/~chuck/college.html
- Counselor-O-Matic
  This service helps students select a range of appropriate schools: some that are "long shots," some that match the student's credentials, and some that are likely to be "safety schools."
  URL: http://review.com/time/counseloromatic/index.html
- Digital Campus
  Link Magazine's Digital Campus offers plenty of articles, links and services relevant to US college students.
  URL: http://www.linkmag.com/
  The National Association of Secondary School Principals
  Download the common application.
  URL: http://www.nassp.org/services/commapp.htm
- Princeton Review
  RemindORama--a virtual nag! Register with this service and they will send you e-mail messages reminding you of critical college planning dates.
  URL: http://cgi.review.com/remind/

WWW Search Engines and Directories

World Wide Web search engines are used to search the Internet for information. They vary from one another; be sure to read the suggestions for searching that are available at each site.

- AltaVista – http://www.altavista.digital.com/
- Dogpile – http://www.dogpile.com
- Excite – http://www.excite.com
- Lycos – http://www.lycos.com/
- Magellan – http://www.mckinley.com/
- Snap Online – http://home.snap.com/
- Webcrawler – http://WWW.WebCrawler.com
- Yahoo – a searchable directory - http://www.yahoo.com/
- And more...a variety of others can be seen at: http://cuiwww.unige.ch/meta-index.html OR http://infopeople.berkeley.edu:8000/src/srctools.html

The URLs were accurate and working when last checked. The Internet is a dynamic place, and changes take place rapidly and without warning. If you receive a message indicating that a URL cannot be found on the server, the server might not be accepting connections or the URL might have changed. Try again later or truncate the URL to reach the site's home page. Truncating the URL means deleting the final portions of the address, leaving only the main part, or domain name. For example, the domain name for the College Board is <www.collegeboard.org>.

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Web Sites with Information about Evaluating Web Sites

Beyond "Cool": Analog Models for Reviewing Digital Resources
By James Rettig. Originally in Online, September 1996.
http://www.onlineinc.com/onlinemag/SeptOL/rettig9.html

This paper examines Web services that review Web sites, Web review services from librarians, and print evaluation criteria; and lists comparative criteria for reviewing reference books and Web sites.

Critical Thinking and Internet Resources
http://www.mcrel.org/connect/plus/critical.html

This page, on the Web site of the Mid-Continent Regional Educational Laboratory, contains links to other sites that provide Web site evaluation criteria for educators.

Curriculum Connections: Integrating Internet Resources into the Curriculum
http://www.ala.org/ICONN/curricu2.html

These pages (from the American Association of School Librarians, a division of the American Library Association) provide information on rating Web sites. An evaluation form is included.

Evaluating Internet Based Information
http://lme.mankato.msus.edu/class/629/cred.html

This page was prepared as part of a course on "Internet and the School Library Media Program" at Mankato State University. The page contains questions to ask when evaluating a Web site.

Evaluating Quality on the Net
By Hope N. Tillman.
http://www.tiac.net/users/hope/findqual.html

This paper discusses the relevance of existing library evaluation criteria for Web evaluation; generic criteria for evaluating Web sites; Web site search engines and review sites; and guides to topical areas on the Web.

Evaluating Web Resources
http://www.science.widener.edu/~withers/webeval.htm

These pages are part of a module for teaching evaluation skills for Web resources that is used at Widener University's Wolfgram Memorial Library. Lists of questions to ask when evaluating Web pages are provided for five types of sites (advocacy, business, news, informational, and personal). The questions are grouped under five criteria: (1) authority; (2) accuracy; (3) objectivity; (4) currency; and (5) coverage.

Evaluating Web Sites: Criteria and Tools
http://www.library.cornell.edu/okuref/research/webeval.html

This page highlights a few suggestions from each of 3 other sites that discuss evaluation of Web resources.

Kathy Schrock's Guide for Educators: Critical Evaluation Surveys.
By Kathleen Schrock. (1997).
http://www.capecod.net/schrockguide/eval.htm

These pages contain links to Web sites related to Web site evaluation, and evaluation survey forms to be used at the elementary, middle, and secondary levels. An evaluation form is included.

Library Selection Criteria for WWW Resources
By Carolyn Caywood. (1996). Originally appeared in Public Libraries, May/June 1996.
http://www6.pilot.infi.net/~carolyn/criteria.html

This page provides criteria for evaluating a Web site that are related to access, design, and content. The page also lists some additional references.

National School Network Site Evaluation
http://nsn.bbn.com/webeval/form1.htm
This site includes a feedback form for educators to provide comments on the educational value and design qualities of education Web sites. An evaluation form is included.

Nine Elements of Web Style (U.S. EPA Region 2)
http://www.bluehighways.com/style.htm
These elements of Web style could be used as part of Web site evaluation criteria.

Thinking Critically about World Wide Web Resources
By Esther Grassian. (1997). Los Angeles: UCLA College Library.
http://www.library.ucla.edu/libraries/college/instruct/critical.htm
This page presents criteria for evaluating Web sites in 4 areas: (1) content; (2) source and timeliness; (3) structure (i.e., organization and design); and (4) other.

Web Site Evaluation: A Collection of Research Papers and Surveys
http://web.syr.edu/~maeltigi/Research/RIGHT.HTM
Just as the title says, this site links to papers on Web evaluation.

WWW CyberGuide Ratings for Content Evaluation.
By Karen McLachlan. (1996). Howard, OH: East Knox High School.
http://www.cyberbee.com/guide1.html
This guide, compiled by a high school media specialist, provides a checklist of items for evaluating a Web site. Categories are: (1) speed; (2) first impression; (3) ease of navigation; (4) use of graphics, sound, and videos; (5) content; (6) currency; and (7) availability of further information. A point system is used to rate sites. This guide is specially designed for teachers to use to evaluate sites they expect their students to use. An evaluation form is included.

WWW CyberGuide Ratings for Web Site Design.
By Karen McLachlan. (1996). Howard, OH: East Knox High School.
http://www.cyberbee.com/guide2.html
This guide is essentially the same as the guide immediately above. An evaluation form is included.

• •

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The Council for Exceptional Children
1920 Association Drive
Reston, VA 20191
800-328-0272; 703-264-9475
E-mail: ericec@cec.sped.org
URL: http://www.cec.sped.org/ericec.htm

• •

College Planning

Student Notebook

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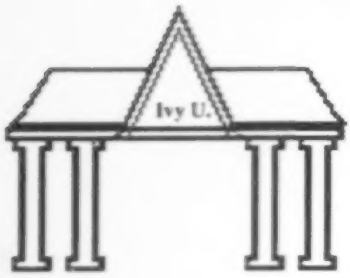
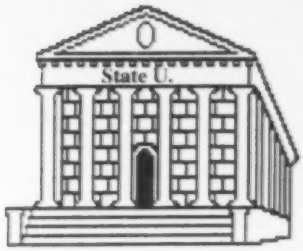
The ERIC Clearinghouse on Disabilities and Gifted Education
1920 Association Drive
Reston, VA 20191
Voice: 800-328-027[illegible] 703-264-9475
E-mail: erice[illegible]ed.org





CHOOSING A COLLEGE

Choosing a college or university requires two different types of knowledge:

KNOWLEDGE ABOUT MYSELF

Who am I?
What is important to me in life?
What are my life-style preferences?
Which academic subjects do I like best?
How do I learn best?
How do I make decisions and set goals?

KNOWLEDGE ABOUT COLLEGES

How do colleges differ from universities?
How do colleges and universities differ among themselves?
What kinds of opportunities does each offer?
How can I assess the quality of education available?
How does the size of a college or university affect the education I expect to obtain?
How and when do I choose a college major?
How do college offerings match my educational goals?

There are fundamental differences between high school and college:

- Academics - individual freedom, more choice of courses, less pre-set structure, more space to develop own structure.
- Choices - to be in college, personal independence, activities, spare time, to define oneself.

College is a transition to self-reliance and a satisfying life.

From Berger, S. (1994) *College Planning for Gifted Students*, second edition. Reston, VA: The Council for Exceptional Children.

STUDENT QUESTIONNAIRE

Why Are You Going to College?

Many colleges and universities offer a well-rounded education, an escape from home, and the time and opportunity to pursue abilities and interests. But if you take a closer look at why you are going to college, you will get a better idea of how selective you should be in your search.

There are 25 statements listed below. Check off the 5 statements that most accurately describe your reasons for going to college. They are not listed in any particular order.

___ 1. To live in a different part of the country.
___ 2. To be exposed to new ideas.
___ 3. To have a more interesting social life.
___ 4. To be near cultural activities.
___ 5. To get practical experience in my chosen field.
___ 6. To prepare for a specific professional school (e.g., law, architecture, dentistry or medicine).
___ 7. To get a solid liberal arts background.
___ 8. To participate in athletic activities.
___ 9. To be challenged academically.
___ 10. To compete with others on my level.
___ 11. To go to a high-status school.
___ 12. To get specific vocational or career training.
___ 13. To help me get a good job or career.
___ 14. To meet people different from myself.
___ 15. To study and live abroad.
___ 16. To take classes from renowned professors.
___ 17. To develop my abilities, potential, talents, and interests.
___ 18. To participate in a special educational program.
___ 19. To be out on my own.
___ 20. To join in extracurricular activities.
___ 21. To earn a better living and life-style.
___ 22. To satisfy my parents.
___ 23. To go where my friends are going.
___ 24. Because I have nothing better to do.
___ 25. To have fun and not work too hard for the next 2 to 4 years.

If you checked off numbers 2, 3, 8, 17, 19, 22, 24, or 25, almost any college can offer you the right opportunities.

If you chose numbers 1, 4, 5, 7, 10, 12, 13, 14, 15, 18, 20, 21, or 22, you will have to be more selective.

If numbers 6, 9, 11, or 16 were among your choices, you will have to look for a highly competitive and academically prestigious school.

From Berger, S. (1994) *College Planning for Gifted Students*, second edition. Reston, VA: The Council for Exceptional Children.

TRAPS FOR STUDENTS TO AVOID

"I'm applying to college X because all my friends are/are not going there."

"There's only one college that's right for me."

"All colleges are the same, so why bother with all this work?"

"I'm going to college X because my father/mother/sister/brother went there (or wants me to go there)."

"College X is too expensive for me."

"I'm not applying there because I'll be rejected."

"If the one college I want doesn't want me, I'll be unhappy for the next 4 years."

From Berger, S. (1994) *College Planning for Gifted Students*, second edition. Reston, VA: The Council for Exceptional Children.

SELF ASSESSMENT

Write!

Values and Needs

Place each item below in order of importance from 1 to 20. This exercise should help you to see your priorities.

1._____
2._____
3._____
4._____
5._____
6._____
7._____
8._____
9._____
10._____
11._____

Being morally good
Having financial security
Reaching my career goals
Leaving work at the office
Living to work
Making positive social change
Being emotionally secure
Practicing wellness
Being rich
Being the best in my field
Being creative and inventive

12._____
13._____
14._____
15._____
16._____
17._____
18._____
19._____
20._____
21._____
22._____

Enjoying family life
Helping others
Getting graduate degree (s)
Growing spiritually
Being honest
Getting married
Experiencing love
Being liked by my peers
Obtaining power
Being famous for my work
Gaining prestige

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SELF ASSESSMENT

Write!

Favorite activities
(e.g., putting together puzzles, driving in the county, conducting chemistry experiments, computers, drama, helping others).

1. _____
Why? _____
2. _____
Why? _____
3. _____
Why? _____
4. _____
Why? _____
5. _____
Why? _____

Five careers I want to avoid

1. _____
Why? _____
2. _____
Why? _____
3. _____
Why? _____
4. _____
Why? _____
5. _____
Why? _____

Five top career choices
If I could choose any 5 careers (regardless of my education level or financial situation), I would choose,

1. _____
Why? _____
2. _____
Why? _____
3. _____
Why? _____
4. _____
Why? _____
5. _____
Why? _____

Five strengths
(e.g., a specific academic area, analytical skills, singing ability, listening skills, athletic ability, communications skills.)

1. _____
2. _____
3. _____
4. _____
5. _____

Five weaknesses
(e.g., a specific academic area, lack of patience, time management, organizational skills).

1. _____
2. _____
3. _____
4. _____
5. _____

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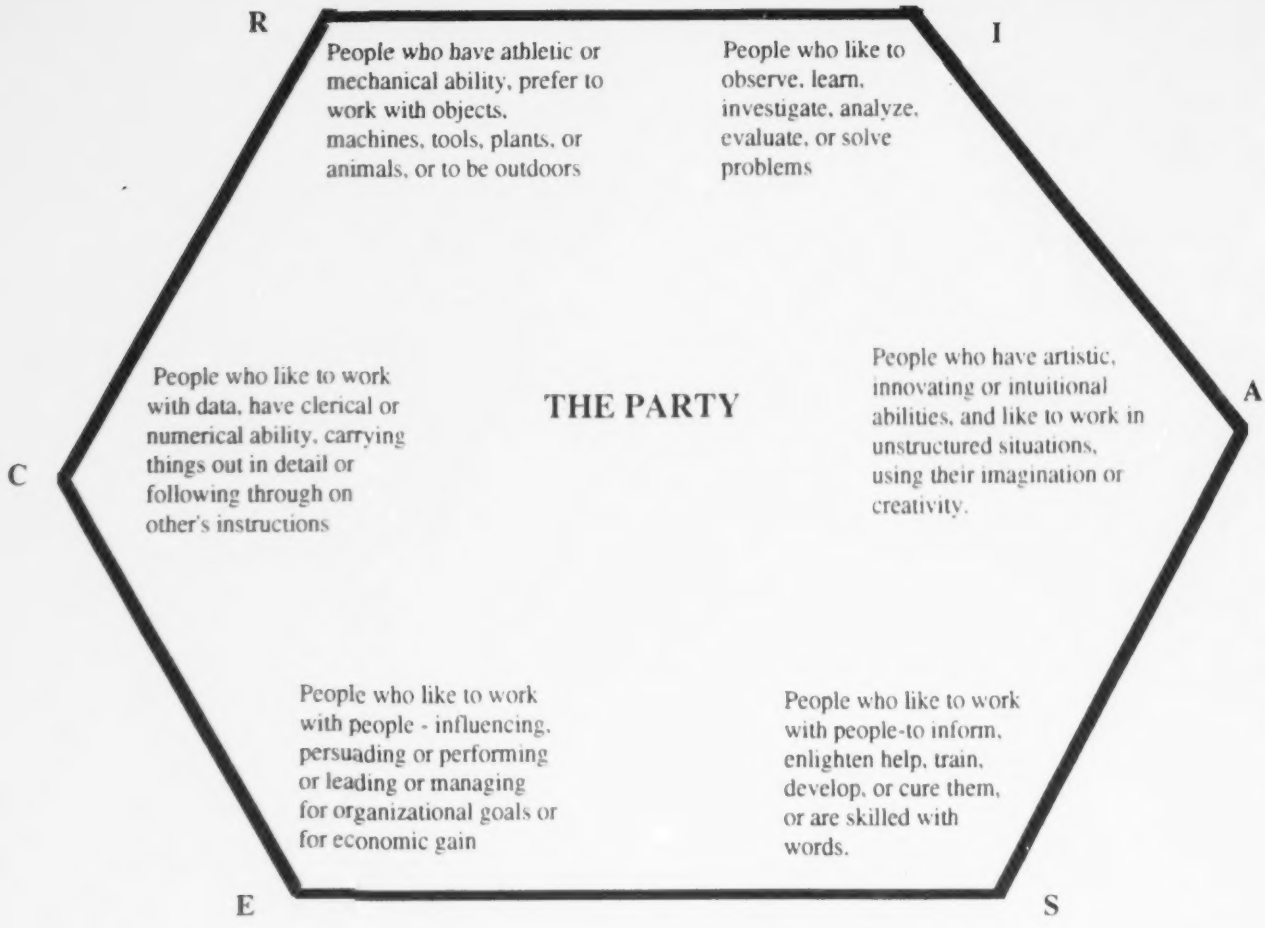
R
I
A
C
E
S
People who have athletic or mechanical ability, prefer to work with objects, machines, tools, plants, or animals, or to be outdoors
People who like to observe, learn, investigate, analyze, evaluate, or solve problems
People who like to work with data, have clerical or numerical ability, carrying things out in detail or following through on other's instructions
THE PARTY
People who have artistic, innovating or intuitional abilities, and like to work in unstructured situations, using their imagination or creativity.
People who like to work with people - influencing, persuading or performing or leading or managing for organizational goals or for economic gain
People who like to work with people-to inform, enlighten help, train, develop, or cure them, or are skilled with words.

Above is an aerial view of a room in which a party is taking place. For some reason people with the same or similar interests have all gathered in the same corner of the room.

Which corner of the room would you instinctively be drawn to? Which group of people would you most enjoy being with for the longest time? Write the letter for that corner here. ____

After 15 minutes, everyone in the corner you have chosen leaves for another party. You did not want to go. Of the groups that remain, which corner or group would you be drawn to the most? Which group of people would you most enjoy being with for the longest time? Write the letter for that corner here. ____

After fifteen minutes, this group also leaves. Again, you chose to stay. Of the remaining groups, which would you most enjoy being with for the longest time? Write the letter for that corner here.____

Stumped? Reverse the process. Begin by eliminating groups you would **not** want to spend the the evening with.

Why did I do this exercise?

This exercise is based on a simple truth discovered by Dr. John L. Holland: we all tend to be attracted to the people who have the same interests and skills as we do. Or at least the same skills that we MOST ENJOY (or would most enjoy) using. So, you have defined the Skills you most enjoy using. Of course your ideas and skills may change over time. But for now, this exercise (and the answers it provided) is a good place to start getting to know yourself. Turn to the hexagon on the next page to see how Youngstown State University in Ohio links the party exercise to some college academic majors.

From *The Three Boxes of Life* by Richard N. Bolles. Ten Speed Press, 1981.

Ten Questions

1. How do you see yourself growing and changing in the next few years? What would be the best environment for that growth?

2. What do you hope to gain from college? What worries you most?

3. Why do you want an education? Why do you want to go to college?

4. Are there any special interests you want to pursue in college? Do your interests require special facilities or programs?

5. At what level of academic challenge do you work best? Do you want a demanding program or one that allows you to do well without knocking yourself out? How do you respond to competition and academic pressure?

6. Do you want to be close to home? Or are you looking forward to exploring a different geographical area?

7. How important are the college surroundings to you? Does it matter whether the college is in a city, a suburb, a small town, or the country?

8. Do you learn best when you set your own pace? Or do you need a structured and directed course of study?

9. How important to you is a close relationship with faculty? Would you prefer the community atmosphere of a small college, or do you crave the greater choice offered by a large university?

10. How is your viewpoint on college affected by pressure from parents, friends, community?

From *Countdown to College: Every Student's Guide to Getting the Most Out of High School* by Zola Dincin Schneider & Phyllis B. K[illegible]. New York: The College Board, 1989.

FINDING THE "JUST RIGHT" COLLEGE

1. SMALL LIBERAL ARTS COLLEGES

- Students have an opportunity to start small, end big.
- Emphasize personal as well as intellectual growth
- Produce a disproportionate number of our country's scientists, teachers, physicians, and leaders in business and government.
- The primary role of faculty is instruction of undergraduate students (55% vs. 30% by large university faculty members).
- Often view themselves as a community in which students and faculty interact on many levels in many settings. Professors are said to take a greater personal interest in their students.
- Students tend to feel a greater sense of commitment to a school where they are rarely anonymous.
- Tend to be more selective in admissions.

2. GOING PRIVATE

- Large private universities tend to emphasize academic quality, resources, diversity, and recognition.
- Tend to support faculty who teach, who do research, and who generate knowledge.
- Provide innovative programs, interdisciplinary offerings, and honors programs.
- Offer cooperative programs—with law, business, medicine, engineering, education, music, and graduate arts and sciences.
- Offer internships, mentorships, and contacts that may not be available in smaller colleges.
- Attract a highly diverse, multicultural student body.
- Are heavily endowed.
- Offer recognition, academic leadership, and are highly selective.

3. STATE UNIVERSITIES

- Provide unlimited opportunities for exploration, involvement, and expression.
- Attract a highly diverse, heterogeneous student body.
- Provide exposure to faculty who are often internationally known experts.
- Offer a vast array of academic courses and extracurricular activities.
- Attract business and industry representatives seeking able students who want to pursue a career following graduation.
- Encourage student freedom and independence.

4. WOMEN'S COLLEGES

- Known for promoting growth and self-esteem.
- Offer role models and encouragement for aspiring young women.
- Offer a wide variety of academic and extracurricular activities. Campus environments range from conservative to liberal, from traditional to innovative.
- Tend to attract young women who later assume leadership positions in politics, the arts, business, and other fields.

5. TECHNICAL UNIVERSITIES

- Emphasize mathematics, science, computer science, and engineering.
- Provide a wide array of technical resources, laboratory facilities, and expertise.
- Pave the way for specialized careers as well as acceptance into graduate and professional schools.
- Often emphasize research, particularly government- and industry-funded projects, creating hands-on learning opportunities for undergraduates.
- Frequently offer cooperative education opportunities that often help defray college costs, offer work experience, later place students in jobs in their intended fields.
- May offer a smaller faculty-student ratio.
- Tend to demand challenging curriculum and graduation requirements that instill discipline, critical thinking, and a strong work ethic.

6. COMPREHENSIVE MID-SIZE SCHOOLS

- Tend to offer many of the advantages, but few of the disadvantages, of small liberal arts colleges and large research universities.
- Range in size from 2,500 to 5,000 undergraduates, offering the personal feel and teaching ethos found at small liberal arts colleges as well as the expanded facilities, research capabilities, and student diversity of larger universities.
- Offer classes taught by full-time faculty rather than teaching assistants or graduate students.
- Provide mentoring experiences and accessible faculty.
- Provide a diverse array of academic courses and extracurricular activities in a relatively small community-like atmosphere.
- Offer students the opportunity to participate in areas that they typically might not attempt.

The Duke University Talent Identification Program, 1994. Used with permission.

NINE TIPS TO HELP STUDENTS PREPARE

1. Too common or not too common

The Common Application is a standardized application form accepted by a large number of the finest colleges and universities in the country. It will save you and your counselor time—but it may not always be the best choice. Remember, your individuality will come through most clearly when you choose your avenues of communication with care.

2. Know when to play it safe.

An admission officer at an Ivy League school once remarked that admissions officers wouldn't care if an application were filled out in green crayon if the applicant was outstanding. When considering the use of gimmicks or attention-grabbers, be careful to distinguish between those that cause you to stick out and those that help you to stand out. If the gimmick isn't "you" or doesn't feel quite right, don't use it.

3. Talent counts.

If you submit a portfolio, or a video or a cassette tape of a performance, professors in the departments of fine arts, drama, dance, or music may be called in to evaluate your talent. If you're especially good, a positive review could strengthen your case and help to differentiate you. But if you're not very good, the review will reflect that too.

4. When in doubt, ask.

No question is dumb and no question is unimportant in this process. Seek the help of your counselor first. If necessary, go to the source. Call the admission office and remember:

- Front-line people are fine for answering basic questions.
- Admission officers are best for answering questions requiring judgment calls.
- Always get the name of the person with whom you speak. You might need it as a reference.

5. Begin your essay early.

You will be doing yourself a disservice if you don't give yourself enough time to identify the topic and the style that will work for you; to write in a fashion that will reveal your personality; and to see your work through several revisions. Know which of your colleges place weight on this part of the application, and plan on giving it your best effort.

6. Know an exception to the rule when you see it.

"So-and-so got in last year and her GPA was below their average. So..." So what? Information like this is not useful when you are trying to gauge your chances for admission. Measure your own strengths and weaknesses against each college's and university's admission profile. Don't use someone else's situation as a guide. It may be aberrant.

7. Spell it out.

Blue key, NIFTY, CYO, ETC! Whatever the organization, don't assume that admission officers will recognize titles or acronyms. Define the activity as well as your role in it.

8. Own the process.

At every step of the process, you have at least **some** control over it. You will determine how much you know about the colleges, who writes your recommendations, when (and whether) your applications become complete, and the extent to which admission officers get to know what makes you tick.

9. All recommendations are not equal.

Don't assume that the teacher in whose class you did A-level work will write the best recommendation. Select people—preferably teachers unless instructed otherwise—who are likely to take the time to write thoughtful comments and who seem interested in doing so. If you are in a position to request letters of recommendation from persons of influence (alumni, politicians, company presidents, for example), ask yourself these questions:

- Does this person know me well enough to write an informative reference?
- What information can this person add to my profile that others have not already covered?

The Duke University Talent Identification Program, 1994. Used with permission.

EFFECTIVE INTERVIEWS

What can you do during an interview to help you make the best decision about the college match?

- Be prepared. Research the institution thoroughly. Approach the interview as an opportunity to share information.
- Construct an agenda that asks questions that cannot be answered by reading college catalogs; for example, ask what percentage of the freshman class returns for sophomore year. Do not ask how many books are in the library. There are more than you can read.
- Construct an agenda that will answer the personal question "What does this institution offer that will assist me in reaching my goals?"
- Answer the interviewer's questions honestly. Prepare and rehearse, but don't overprogram yourself.
- Be prepared to present information about yourself that is not visible in your written application and supporting material.
- Write down your interviewer's name: write a thank-you note as soon as you return home.

Some Questions You May Be Asked

- Why do you want to go to this college?
- What do you want to know about this college?
- What have you read lately?
- Are there any particular subjects or authors you enjoy?
- How did you spend last summer?
- What has been important to you in high school?
- What do you consider to be your major strength? Weakness?
- Do you know what area you want to concentrate on in college? Why did you choose this particular area?
- During your free time at this school, in what activities might you participate?

Some Questions You May Want to Ask

- What do you consider to be your outstanding (or underrated) departments?
- Can you take courses for credit in areas such as music or art if you are not going to major in them?
- Do you have an honors program? Do you offer interdisciplinary courses and seminars?
- At a university with a graduate school, you might want to ask: If I were in a preprofessional program here at your school, would it improve my chances of being admitted to your graduate school?
- Are there any opportunities to earn money on campus?
- Do you have an honor system here? Are faculty members and students satisfied with the system?

From Berger, S. (1998) *College Planning for Gifted Students*, second edition. Reston, VA: The Council for Exceptional Children.

EFFECTIVE ESSAYS

Following is a step-by-step process that may help you produce a better essay:

1. Write several short essays about what you do in school and what you do outside of school.Be specific. For example, you might write about:
   - your most important learning experience,
   - your favorite academic class and/or teacher,
   - the rise and fall of your science fair project,
   - the trials and rewards of your work on a school publication,
   - your lack of athletic prowess, or
   - a volunteer experience.

   Try to write about yourself in at least three different settings so that you can see yourself from several angles.

2. List all of the adjectives you would use to describe yourself in each of these settings.

3. Define your characteristics. Ask yourself:
   - What outstanding characteristic or cluster of characteristics crop up in my writings?
   - How do my characteristics seem to relate to each other?
   - Am I dependable, with good work habits? Am I creative, with a good sense of humor? Am I a person of contradictions? (Many of us are.)

4. Examine the question you are expected to answer.
   - Decide exactly what the question asks.
   - Decide which characteristics should be included in your answer.
   - Decide which example or examples should be included in your answer.

5. Write your answer.

6. Examine your answer. Try the following questions:
   - Did my essay really answer the question? Could this essay only have been written by me? (If the answer is no, you need to examine ways to make your essay more reflective of you.)
   - Does this essay include concrete examples to illustrate my points? (If the answer is no, you need to examine ways to include specific examples and illustrations.)
   - Is this essay an interesting enough answer to the question that a reader will be able to concentrate on it after reading many other essays? (If the answer is no, you need to examine ways to help the reader remain interested.) Caution: Make your essay interesting, as opposed to strange and bizarre.

7. Revise your answer. You may need several revisions before you have an interesting essay that uses concrete examples and is reflective of you.

8. Edit your answer, checking grammar, spelling, and punctuation.

9. Type your essay. Typed essays are usually more highly rated than handwritten essays.

10. Mail your application.

11. Permit yourself one long sigh of relief.

From Siegle, S. (1996) *College Planning for Gifted Students*, second edition. Reston, VA: The Council for Exceptional Children.

?

Determining Criteria

criteria [noun] standards of judgment or criticism; established rules or principles for testing anything for purposes of making decisions.
-Random House Dictionary

Decision makers need to be aware of why they make the choices they do. They need to know what standards influence a decision. For example, imagine yourself in a grocery store. You and a friend are purchasing a bag of chocolate chip cookies. Five different brands are on the shelf. How would you decide on which brand to purchase? Chances are some of your criteria might include:

- taste,
- texture,
- appearance,
- familiarity with the brand name,
- specific ingredients.

If you have never eaten chocolate chip cookies, you might decide to purchase all 5 brands and conduct a taste test.

Selecting a college from the wide variety of choices is, in some ways, similar to the above example. Determining personal criteria is necessary before final selections are made. And, a "taste test" or visit is essential before you make your final choices.

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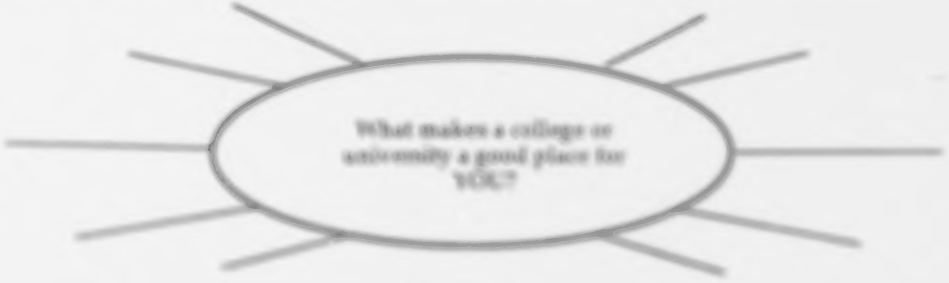
Here are some criteria you may want to use when selecting a range of colleges. First, go through the list to determine which criteria are important to YOU. (Your choices might change as you learn more about schools.) Then, as you investigate colleges, fill in the names of several in the top row. Rate each characteristic on a scale of 1 to 5, based on importance to YOU.

When you select colleges, bear in mind that your list should include 1 "safety" school, 1 "long shot," and several schools whose selection criteria match your qualifications.

Scale 1-5 (Poor to Excellent)

Names of Colleges →

Characteristics						Totals
Size						
Location						
Cost						
Type						
Type by Sex						
Social Life						
Academic Atmosphere						
Campus Environment						
Religious Affiliation						
Student Activities						
Programs Offered						
Special Programs						
Campus Lifestyle						
Caliber of Students						
Athletics						
Financial Aid						
Housing						
Faculty						
Calendar						
Prestige						
Special services						
Distribution requirements						
Other						



College Planning Internet Resources

Electronic Resources

Electronic resources have come of age. The Internet provides opportunities that have never before been available, and its presence has significantly increased both our vocabulary and approaches to gathering information for the college planning process. The terms "web site" and "http" have become a familiar part of our lexicon. One can hardly turn on the television or read a newspaper or magazine without coming across the term "home page." Throughout the United States, schools and public libraries are getting connected.

With a computer, a modem, and Internet access, counselors, educational professionals, parents, and students now have access to a wide variety of electronic college planning resources. The rapid growth of the Internet brought with it the capability to take a practice SAT online, search for financial aid, and "see" a college without ever leaving home. Most colleges have home pages. Like viewbooks, these homepage views can be misleading. The information has been carefully developed to display the image that a school wants people to see, and portray the school in the best possible light. Students and adults must become critical consumers.

The Internet has also increased our capability to find a wealth of up-to-date college planning resources. The following list of college planning resources is relatively easy to use and offer several advantages.

Advantages of Internet Use

- Find a variety of ways to begin the college planning process.
- Select a group of colleges that match your criteria.
- Get college admission office addresses and telephone numbers instantly.
- Get comprehensive information about the colleges you select.
- Send an online application.
- Search for financial aid availability.
- Access college major and career planning information.
- Chat with other prospective applicants or alumni.

Note. Students should avoid using the Internet for sending last minute electronic applications because of the risks. For example, a university's server might not be working, or heavy "traffic" might interview with electronic transmission or even disable a university's server computer.

SAT and ACT Test Preparation

- ACT
  ACT, Inc. is an independent, nonprofit organization that provides educational services to students and their parents, to high schools and colleges, and to professional associations and government agencies. They are best known for their college admissions testing program.
  URL: http://www.act.org/
- The College Board
  The College Board offers substantive information, test taking tips, and sage advice about both the SAT-I and SAT-II, and others tests as well.
  URL: http://cbweb1.collegeboard.org/sat/html/students/prep000.html
- Educational Testing Service (ETS)
  ETS Net is a gateway o information about college and graduate school admissions and placement tests, with links to AP, GRE, GMAT, LSAT, SAT, The Praxis Series, and TOEFL sites, as well as other educational resources. ETS Net provides sample test questions, test preparation, and test registration. It also contains information on ETS research initiatives, teacher certification, college planning, financial aid, and links to college and university sites.
  URL: http://www.ets.org/
- Princeton Review
  Free an online SAT, check results and analyses of previous SATs, learn test-taking tricks, and much much more. Career inventory is linked <http://review.com/birkman/birkman.cfm> to the Princeton Review for students who are trying to find direction.

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URL: http://www.review.com/college/

- Testprep
  PSAT and SAT Prep, sponsored by Stanford Testing Systems, Inc. When users follow the instructions for taking a prep test, Stanford Testing Systems software will diagnose weak areas and provide specific questions to strengthen scores.
  URL: http://www.testprep.com/index.html

College Planning Internet Sites. (This list is not intended to be comprehensive.)

- College Board Online
  The College Board is a national membership association of schools and colleges whose aim is to facilitate the student transition to higher education. They offer information tailored to students, parents, and teachers. Users can register for and practice for SATs. Financial aid information is available.
  URL: http://www.collegeboard.org/
  * College Board's new ExPAN is an information and search site where you can use a variety of criteria to find the right college.
    URL: http://www.collegeboard.org/csearch/bin/ch01.cgi
- College Choice Website
  This is a very comprehensive college planning web site hosted by the Graduate School of Education and Information Studies at UCLA. The information is categorized in an easy to use format, which makes it an ideal place to start.
  URL: http://www.gseis.ucla.edu/mm/cc/home.html
- CollegeScape
  A source of information about highly selective colleges and universities. This organization charges each college $1,500 when a student uses the online application, so the colleges listed are those that can afford to and want to pay a service fee.
  URL: http://www.collegescape.com/
- College and University Home Pages
  This site is a link to more than 3,000 college and university home pages.
  URL: http://www.gse.ucla.edu/mm/cc/links/schools.html
- The Consumer Information Center in Pueblo, Colorado
  An informative publication, "Preparing Your Child for College," is available through the Internet from the electronic arm of the Government Document Distribution Center in Pueblo, Colorado.
  URL: http://www.pueblo.gsa.gov
- Duke University Talent Identification Program (TIP)
  TIP's college planning pages include a wonderful FAQ titled "Dear Admissions Guru" that answers many common questions and a useful college search engine.
  URL: http://www.jayi.com/ or http://www.jayi.com/ACG/ques.html
- Go College
  A commercial site that offers SAT practice tests on announced dates. They also offer simple and advanced searching for colleges that match the user's criteria, and, for a fee, other services such as a searchable scholarship database.
  URL: http://www.gocollege.com/
- Kaplan Education Center
  This site, sponsored by Kaplan Test Preparation, provides a great deal of information about starting the college process. PSAT, SAT and ACT information and sample test questions are available plus timely information on the college admissions process.
  URL: http://www.kaplan.com/precoll/
- Lycos
  Lycos is an index that lists college home pages by geographic location.
  URL: http://a2z.lycos.com/Education/College_Home_Pages/
- Petersons
  Petersons is one of the most comprehensive college planning sites. They have a search engine that allows the user to type in criteria and search for colleges that match. Financial aid information is included in their extensive

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Offers a search engine that lets you type criteria and then looks for schools that match. They also have a listing of "best" schools.
URL: http://www.review.com/college/

- The Texas Guaranteed Student Loan Corporation (TGSLC):
  The Texas Guaranteed Student Loan Corporation (TGSLC) makes a great deal of information available to help prospective college students prepare for college. Its information includes career planning and college selection information. The Internet site is titled Adventures in Education.
  URL: http://www.tgslc.org
- USNews (school rankings by category, financial aid, and more)
  URL: http://www4.usnews.com/usnews/edu/
- Yahoo's College Select (information on colleges and the college planning process)
  One of the large directories of information, Yahoo has an information page on Education and has additional pages with information about preparing for college and about paying for college. They also provide information about College Honors Programs.
  URL: http://yahoo.com/Education/
  URL: http://www.yahoo.com/Education/Higher_Education/Honors_Programs

Financial Aid

- College Guides and Aid
  A commercial site that offers some free services, some services for a fee, and an online college planning bookstore with book reviews.
  URL: http://www.collegeguides.com/
- Counseling Resources
  URL: http://www.cybercom.com/~chuck/guide.html#B
- FastWEB
  This commercial site offers an extensive searchable database of sources for financial aid, including work study, scholarships, fellowships, internships, grants, and loans. Their services are advertised as free.
  URL: http://www.fastweb.com/
  URL: http://web.studentservices.com/fastweb/
- The Financial Aid Information Page
  This site is sponsored by the National Association of Student Financial Aid Administrators and has links to a wide selection of financial aid sources.
  URL: http://www.finaid.org/
  URL: http://www.cs.cmu.edu/afs/cs/user/mkant/Public/FinAid/finaid.html
- The Illinois Student Aid Commission (ISAC):
  The Illinois Student Aid Commission (ISAC) also provides information about preparing and paying for college.
  URL: http://www.isac1.org
- The Student Loan Marketing Association (Sallie Mae):
  The Student Loan Marketing Association (Sallie Mae) is a provider of financial services and operational support for higher education. Use the address below to access information offered by Sallie Mae on planning for college.
  URL: http://www.salliemae.com
- U.S. Department of Education Office of Postsecondary Education
  Offers a students guide and other useful information.
  URL: http://www.ed.gov/offices/OPE/index.html
  URL: http://www.ed.gov/prog_info/SFA/StudentGuide

Other Useful and Interesting College Planning Sites

- A link to most universities and colleges, listed alphabetically and by state
  http://www.utexas.edu/world/univ/
- Career Development Manual (A nice interactive guide to careers)
  http://www.adm.uwaterloo.ca/infocecs/CRC/manual-home.html
- Distance Education Clearinghouse
  http://www.uwex.edu/disted/home.html
- A Comprehensive List of Distance Learning Sites
  http://www.online.uillinois.edu/runage/
- CampusTours

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A guide to virtual tours at colleges and universities around the nation.
URL: http://www.campustours.com/

- Chuck Eby's Counseling Resources
  The owner of this site provides a long list of links to college planning sites categorized into Preparation, College Search and Information, College Information, and Special (e.g., historically black colleges and Business Trade & Technical Vocational Schools). Users will also find sources for study skills, financial aid information, career information, and resources for counselors and parents. The information has been kept up to date and is easy to use.
  URL: http://www.cybercom.com/~chuck/college.html
- Counselor-O-Matic
  This service helps students select a range of appropriate schools: some that are "long shots," some that match the student's credentials, and some that are likely to be "safety schools."
  URL: http://www.review.com/time/counseloromatic/index.html
- Digital Campus
  Link Magazine's Digital Campus offers plenty of articles, links and services relevant to US college students.
  URL: http://www.linkmag.com/
- The National Association of Secondary School Principals
  Download the common application.
  URL: http://www.nassp.org/services/commapp.htm
- Getting Ready for College Early: A Handbook for Parents of Students in the Middle and Junior High School Years. (August 1997). A useful book published by the U.S. Department of Education.
  http://www.ed.gov/pubs/GettingReadyCollegeEarly/
  How Can I Help My Gifted Child Plan for College?
  http://www.aspensys.com/eric/resources/parent/giftcoll.html
- Preparing Your Child For College. A Resource Book for Parents. 1996-97 Edition
  http://www.ed.gov/pubs/Prepare/
- Princeton Review
  RemindORama--a virtual nag! Register with this service and they will send you e-mail messages reminding you of critical college planning dates.
  URL: http://cgi.review.com/remind/
  (If it doesn't work, try http://cgi.review.com/remind/college/start3.cfm)

WWW Search Engines and Directories

World Wide Web search engines are used to search the Internet for information. They vary from one another; be sure to read the suggestions for searching that are available at each site. Try several.

- AltaVista – http://www.altavista.digital.com/
- Dogpile – http://www.dogpile.com
- Excite – http://www.excite.com
- Lycos – http://www.lycos.com/
- Magellan – http://www.mckinley.com/
- Snap Online – http://home.snap.com/
- Webcrawler – http://WWW.WebCrawler.com
- Yahoo – a searchable directory - http://www.yahoo.com/
- And more...a variety of others can be seen at:
  http://cuiwww.unige.ch/meta-index.html
  OR http://infopeople.berkeley.edu:8000/src/srctools.html

The URLs were accurate and working when last checked. The Internet is dynamic: changes take place apidly and without warning. If you receive a message indicating that a URL cannot be found on the server, the sever might not be accepting connections or the URL might have changed. Try again later.

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Updated 1/8/98

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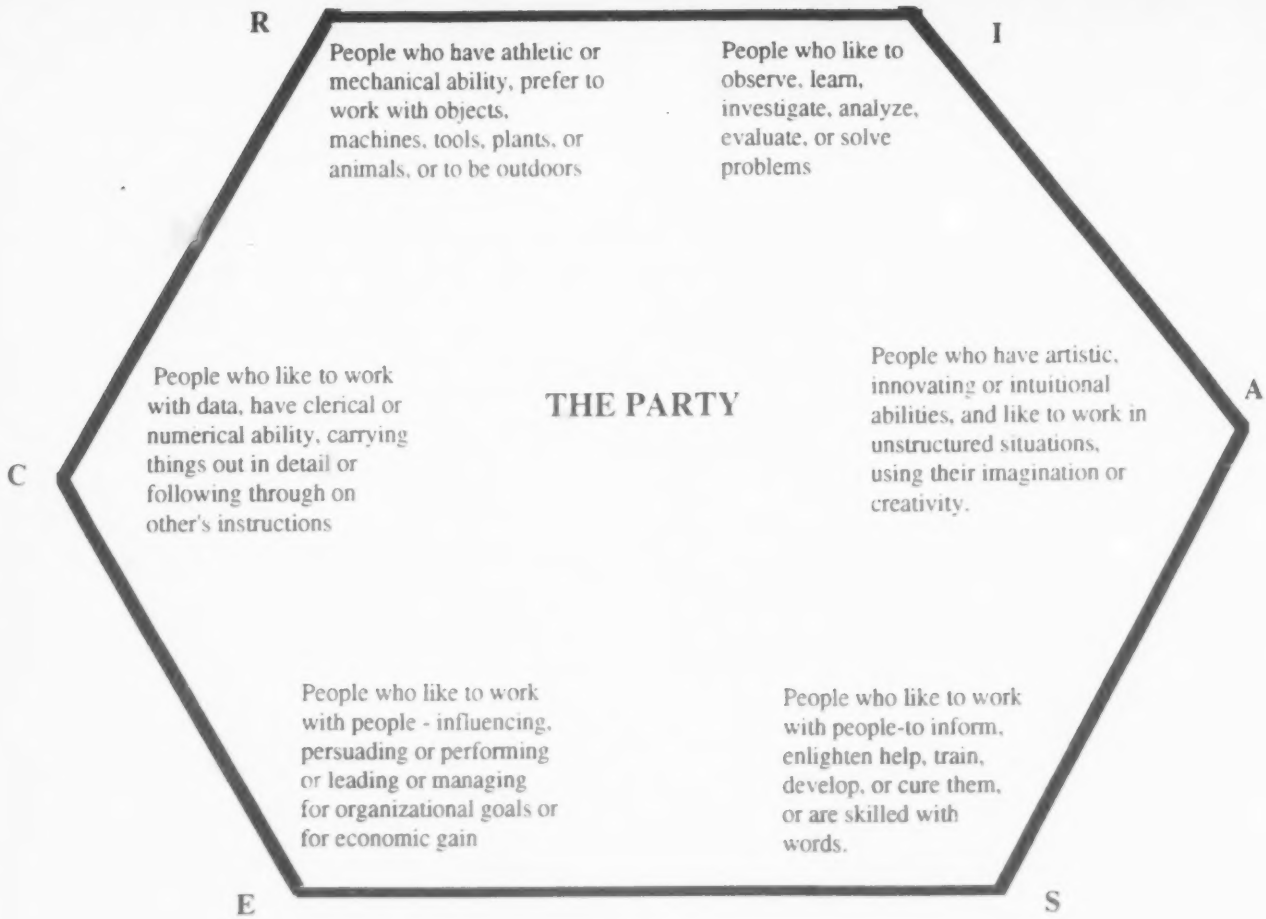
R
I
A
C
E
S
People who have athletic or mechanical ability, prefer to work with objects, machines, tools, plants, or animals, or to be outdoors
People who like to observe, learn, investigate, analyze, evaluate, or solve problems
People who have artistic, innovating or intuitional abilities, and like to work in unstructured situations, using their imagination or creativity.
People who like to work with data, have clerical or numerical ability, carrying things out in detail or following through on other's instructions
THE PARTY
People who like to work with people - influencing, persuading or performing or leading or managing for organizational goals or for economic gain
People who like to work with people-to inform, enlighten help, train, develop, or cure them, or are skilled with words.

Above is an aerial view of a room in which a party is taking place. For some reason people with the same or similar interests have all gathered in the same corner of the room.

Which corner of the room would you instinctively be drawn to? Which group of people would you most enjoy being with for the longest time? Write the letter for that corner here. ____

After 15 minutes, everyone in the corner you have chosen leaves for another party. You did not want to go. Of the groups that remain, which corner or group would you be drawn to the most? Which group of people would you most enjoy being with for the longest time? Write the letter for that corner here. ____

After fifteen minutes, this group also leaves. Again, you chose to stay. Of the remaining groups, which would you most enjoy being with for the longest time? Write the letter for that corner here.____

Stumped? Reverse the process. Begin by eliminating groups you would **not** want to spend the the evening with.

Why did I do this exercise?

This exercise is based on a simple truth discovered by Dr. John L. Holland: we all tend to be attracted to the people who have the same interests and skills as we do. Or at least the same skills that we MOST ENJOY (or would most enjoy) using. So, you have defined the Skills you most enjoy using. Of course your ideas and skills may change over time. But for now, this exercise (and the answers it provided) is a good place to start getting to know yourself. Turn to the hexagon on the next page to see how Youngstown State University in Ohio links the party exercise to some college academic majors.

From *The Three Boxes of Life* by Richard N. Bolles. Ten Speed Press, 1981.

Web Sites with Information about Evaluating Web Sites

Beyond "Cool": Analog Models for Reviewing Digital Resources
By James Rettig. Originally in Online, September 1996.
http://www.onlineinc.com/onlinemag/SeptOL/rettig9.html

This paper examines Web services that review Web sites, Web review services from librarians, and print evaluation criteria; and lists comparative criteria for reviewing reference books and Web sites.

Critical Thinking and Internet Resources
http://www.mcrel.org/connect/plus/critical.html

This page, on the Web site of the Mid-Continent Regional Educational Laboratory, contains links to other sites that provide Web site evaluation criteria for educators.

Curriculum Connections: Integrating Internet Resources into the Curriculum
http://www.ala.org/ICONN/curricu2.html

These pages (from the American Association of School Librarians, a division of the American Library Association) provide information on rating Web sites. An evaluation form is included. .

Evaluating Internet Based Information
http://lme.mankato.msus.edu/class/629/cred.html

This page was prepared as part of a course on "Internet and the School Library Media Program" at Mankato State University. The page contains questions to ask when evaluating a Web site.

Evaluating Quality on the Net
By Hope N. Tillman.
http://www.tiac.net/users/hope/findqual.html

This paper discusses the relevance of existing library evaluation criteria for Web evaluation; generic criteria for evaluating Web sites; Web site search engines and review sites; and guides to topical areas on the Web.

Evaluating Web Resources
http://www.science.widener.edu/~withers/webeval.htm

These pages are part of a module for teaching evaluation skills for Web resources that is used at Widener University's Wolfgram Memorial Library. Lists of questions to ask when evaluating Web pages are provided for five types of sites (advocacy, business, news, informational, and personal). The questions are grouped under five criteria: (1) authority; (2) accuracy; (3) objectivity; (4) currency; and (5) coverage.

Evaluating Web Sites: Criteria and Tools
http://www.library.cornell.edu/okuref/research/webeval.html

This page highlights a few suggestions from each of 3 other sites that discuss evaluation of Web resources.

Kathy Schrock's Guide for Educators: Critical Evaluation Surveys.
By Kathleen Schrock. (1997).
http://www.capecod.net/schrockguide/eval.htm

These pages contain links to Web sites related to Web site evaluation, and evaluation survey forms to be used at the elementary, middle, and secondary levels. An evaluation form is included.

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Library Selection Criteria for WWW Resources
By Carolyn Caywood. (1996). Originally appeared in Public Libraries, May/June 1996.
http://www6.pilot.infi.net/~carolyn/criteria.html

This page provides criteria for evaluating a Web site that are related to access, design, and content. The page also lists some additional references.

National School Network Site Evaluation
http://nsn.bbn.com/webeval/form1.htm

This site includes a feedback form for educators to provide comments on the educational value and design qualities of education Web sites. An evaluation form is included.

Nine Elements of Web Style (U.S. EPA Region 2)
http://www.bluehighways.com/style.htm

These elements of Web style could be used as part of Web site evaluation criteria.

Thinking Critically about World Wide Web Resources
By Esther Grassian. (1997). Los Angeles: UCLA College Library.
http://www.library.ucla.edu/libraries/college/instruct/critical.htm

This page presents criteria for evaluating Web sites in 4 areas: (1) content; (2) source and timeliness; (3) structure (i.e., organization and design); and (4) other.

Web Site Evaluation: A Collection of Research Papers and Surveys
http://web.syr.edu/~maeltigi/Research/RIGHT.HTM

Just as the title says, this site links to papers on Web evaluation.

WWW CyberGuide Ratings for Content Evaluation. By Karen McLachlan. (1996).
Howard, OH: East Knox High School.
http://www.cyberbee.com/guide1.html

This guide, compiled by a high school media specialist, provides a checklist of items for evaluating a Web site. Categories are: (1) speed; (2) first impression; (3) ease of navigation; (4) use of graphics, sound, and videos; (5) content; (6) currency; and (7) availability of further information. A point system is used to rate sites. This guide is specially designed for teachers to use to evaluate sites they expect their students to use. An evaluation form is included.

WWW CyberGuide Ratings for Web Site Design. By Karen McLachlan. (1996).
Howard, OH: East Knox High School.
http://www.cyberbee.com/guide2.html

This guide is essentially the same as the guide immediately above. An evaluation form is included.

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ERIC Digest

E492 EC-90

CAREER PLANNING FOR GIFTED AND TALENTED YOUTH

Barbara Kerr

Although parents and teachers may be concerned about academic planning for gifted and talented young people, they often assume that career planning will take care of itself. Students may have many choices available because of multiple gifts or a particular talent, and a career choice in that area seems inevitable. There is no need for career planning. The student is simply expected to make an occupational decision around the sophomore year of college and then follow through on the steps necessary to attain that goal.

Unfortunately, evidence is mounting that youthful brilliance in one or more areas does not always translate into adult satisfaction and accomplishment in working life. Studies with such diverse groups as National Merit Scholars (Watley, 1969), Presidential Scholars (Kaufmann, 1981), and graduates of gifted education programs (Kerr, 1985) have shown that the path from education to career is not always smooth, and it may be complicated by social-emotional problems and needs of gifted students that differ from those of more typical students.

Recognition of these problems has produced counseling models that address student needs (e.g., Berger, 1989; Buescher, 1987; Silverman, 1986; VanTassel-Baska, 1990). Some factors that can contribute to problems with career planning are presented here, along with ways of preventing and intervening with career development problems.

Multipotentiality

Multipotentiality is the ability to select and develop any number of career options because of a wide variety of interests, aptitudes, and abilities (Frederickson & Rothney, 1972). The broad range of opportunities available tends to increase the complexity of decision making and goal setting, and it may actually delay career selection. Multipotentiality is most common a concern of students with moderately high IQs (120–10), those who are academically talented, and those who have two or more outstanding but very different abilities such as violin virtuosity and mathematics precocity. Signs that multipotentiality is a concern include the following:

Elementary school: Despite excellent performance in many or all school subjects, students may have difficulty making decisions, particularly when they are asked to make a choice on topics or projects from among many options. Multiple hobbies with only brief periods of enthusiasm and difficulty in finishing up and following through on tasks (even those which are enjoyable) are additional signs for concern.

Junior high: Despite continued excellence in many or all school subjects, difficulty with decision making and follow-through continue. Students may participate in multiple social and recreational activities with no clear preferences, and they may overschedule, leaving few free periods and little time to just think.

Senior high: Decision-making problems generalize to academic and career decisions, resulting in overly packed class schedules and highly diverse participation in school activities. Students often accept leadership of a wide variety of groups in school, religious activities, and community organizations. Adults may notice occasional signs of stress and exhaustion (absences, frequent or chronic illness, periods of depression or anxiety, etc.), or they may see evidence of delay or vacillation about college planning and decision making. Students are able to maintain high grades in most or all courses taken. An important clue to continuing multipotentiality is the student's vocational interest test profiles. These tests often show interests and similarities to an unusually large number of occupations.

College: Multipotential students often have multiple academic majors. Three or more changes of college major are not unusual for an individual who cannot set long-term

goals. They continue intense participation in extracurricular activities and have outstanding academic performance but are concerned about selecting a career. They may make hasty, arbitrary, or "going-along-with-the-crowd" career choices. They may encounter the dilemma of opportunities lost in giving up some interests in favor of others.

Adulthood: Some of the implications of multipotentiality can be seen in bright adults who, despite excellent performance in most jobs, hold multiple positions in short time periods and experience a general feeling of lack of fit in most jobs. Some experience feelings of alienation, purposelessness, depression, and apathy despite high performance and excellent evaluations. Some experience periods of unemployment and underemployment, or they fall behind same-age peers in career progress and sometimes social development (marriage, family, community involvement).

Possible intervention strategies for multipotentiality at different educational levels include the following:

Elementary School

- Provide realistic exposure to the world of work through parent sharing and exposure to parents' working places.
- Encourage career fantasies through dress-up and plays.
- Encourage focusing activities such as class projects or achievement of Scout merit badges, which require goal setting and follow-through.
- Use biographies of eminent people as primary career education material.
- As teachers or parents, carefully evaluate skills, talents, and interests in order to help children understand possible areas of greatest interest.

Junior High

- Discuss the meaning and value of work.
- Discuss family and community values pertaining to work.
- Provide for light volunteer work in several areas of interest.
- Provide "shadowing" experiences in which students spend the day with an adult working in an area of greatest interest.
- Discourage overinvolvement in social and recreational activities for the sake of involvement; prioritize and decide on a few extracurricular involvements.

Senior High

- Seek appropriate vocational testing from a guidance professional or psychologist.
- Encourage visits to college and university classes in a few areas of interest.
- Provide for more extensive volunteer work.
- Explore possibilities of paid internships with professionals.
- Insist on a solid curriculum of coursework in order to insure against inadequate preparation for a later career choice.
- Provide value-based guidance, which emphasizes choosing a career that fulfills deeply held values.
- Discourage conformist, stereotyped career choices.
- Expose students to atypical career models.

College Students and Young Adults

- Seek career counseling including assessment of interests, needs, and values.
- Enroll in a career planning class.
- Encourage careful course selection.
- Avoid conformist and stereotyped major choices.
- Seek a mentor.
- Engage in long-term goal setting and planning.

Early Emergence

Early emergers (Marshall, 1981) are children who have extremely focused career interests. A passion for an idea and an early commitment to a career area are common childhood characteristics of eminent individuals in a wide variety of professions (Bloom, 1985; Kerr, 1985); thus, early emergence should not be thought of as a problem of career development, but rather as an opportunity that may be acted upon, neglected, or, unfortunately, sometimes destroyed. Acting upon early emergence means noticing an unusually strong talent or enthusiasm, providing training in skills necessary to exercise that talent, providing resources, and keeping an open mind about the future of the talent or interest. Neglecting early emergence means overlooking the talent or interest or failing to provide education and resources. Destroying the early emerger's passion may not be easy, but belittling the talent or interest ("Who cares about someone who doodles and draws all the time instead of listening?" "What makes you think you can become an anthropologist?") may easily extinguish the flame. Insisting on well-roundedness or disallowing needed training (e.g., refusing to allow a mathematically precocious child to accelerate in math) may diminish the passion. Overly enthusiastic encouragement and pressure may also remove the intrinsic pleasure the child feels in the interest or talent area.

As with multipotentiality, there are signs of early emergence.

Elementary school: Avid interest in one school subject or activity with only general liking for other subjects and activities and extraordinary talent in one area and average or above average performance in others are underlying signs of early emergence. (These students may be mistakenly labeled as underachievers.) Students may also try to write more papers than required, choose too many subjects in the area of interest, and mention early career fantasies about success and fame in a particular area of

interest.

Junior high: Students continue highly focused interests and may express a strong desire for advanced training in an area of talent and interest. Development of adolescent social interests may be delayed because of a commitment to work in a talent area or because of rejection by others, yet performance in the talent area grows, while performance in other areas diminishes.

Senior high: Students may develop a strong identity in the talent area (the "computer whiz," "artist," or "fix-it person," for example). They may express a desire for help with planning a career in an area of interest. A desire to test skill in competition with or in concert with peers in the chosen talent area and continued high performance in the talent area to a degree that causes neglect of other school subjects or social activities are additional signs of a focused interest and passion.

College students and young adults: These young people make an early, but not hasty or arbitrary, choice of career or major. They often show a desire for completion of a training period in order to "get on with work," seek out mentors, continue intense focus, and often neglect social and extracurricular activities.

Adulthood: Adults may continue their intense focus, desire eminence or excellence in the talent area, and possibly forego or delay other aspects of adult development such as marriage, nurturing of a younger generation, social and community involvement, and personal development.

Possible intervention strategies for early emergers at different educational levels include the following:

Elementary School

- Provide for early identification of unusual talent or area of precocity.
- Consult with experts on the nature and nurture of particular gifts or talents.
- Consult with the school on ways of nurturing the talent or gift.
- Encourage fantasies through reading of bibliographies and playing of work roles.
- Provide opportunities to learn about eminent people in the talent area (attend a concert, visit an inventor's workshop, attend a math professor's class).
- Relate necessary basic skills to the area of interest.
- Provide opportunities to socialize with children with similar, intense interests through such activities as music camps, computer camps, and Junior Great Books.
- Strike a careful balance between encouragement and *laissez-faire*; provide support for the strong interest along with freedom to change direction. Do not become so invested in the child's talent or interest that you fail to notice that the child has changed interests. (Early emergers most often change to a closely related interest; that is, they switch musical instruments or transfer an interest in mathematics to an interest in theoretical physics).

Junior High

- Provide support and encouragement during the intensive training that often begins at this point.
- Allow for plenty of time alone.
- Seek opportunities for job "shadowing" (following a professional throughout the working day) in area of interest.
- Seek opportunities for light volunteer work in area of interest.
- Avoid pressuring the student into social activities.

Senior High

- Continue support, encouragement, and time alone.
- Seek opportunities for internships and work experiences in the areas of interest (internship on archaeological dig; job as camp counselor at a fine arts camp; coaching younger people in musical or athletic skill).
- Seek career guidance from a guidance counselor who is familiar with the talent area or from a professional in that field.
- Make a detailed plan of training and education leading toward the chosen career goal, including financial arrangements.
- Explore higher education or postsecondary training early and thoroughly, with contacts and visits.
- Help the student establish a relationship with a mentor in the area of interest. Early emergers often fare better in a less prestigious institution where they have access to an enthusiastic mentor than in an Ivy League or high status institution where they do not.

College Students and Young Adults

- Help provide support for extended education and training.
- Encourage the development of knowledge of career ladders in the area of interest (auditions, gallery shows, inventor's conventions, etc.).
- Encourage a continuing relationship with a career counseling or guidance professional for support in decision making and problem solving.

The career development problems discussed here are nearly opposite one another. The multipotential student seems unfocused, delaying, and indecisive, whereas the early emerger is focused, driven, and almost too decisive. Both types carry with them dangers and opportunities. Skillful career education and guidance can help ensure that neither multipotentiality nor early emergence leads to difficulty in career planning and development.

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Career Planning for Special Populations

Minority Gifted Students

Minority gifted students have special career planning needs as well as needs related to multipotentiality or early emergence. Minority students from Black, Hispanic, and American Indian backgrounds are less likely to have been selected for gifted education programs and less likely to perform well on standardized achievement tests than their nonminority peers. In addition, they may have lower career aspirations because of lower societal expectations. Nevertheless, the patterns of leadership and out-of-class accomplishments of gifted minority students are very similar to those of nonminority gifted students (Kerr, Colangelo, Maxey, & Christensen, 1989). Minority gifted students are active leaders in other communities. Therefore, career counseling for these students may be most effective when it focuses on raising career aspirations and emphasizes out-of-class accomplishments as indicators of possible career directions. Career planning must also go hand in hand with building a strong ethnic identity if later conflict between ethnic identity and achievement in majority society is to be avoided. Colangelo and LaFrenz (1981) have provided suggestions for how this can be accomplished.

Gifted Girls and Women

Persisting sex role stereotypes and the continued socialization of girls for secondary roles means that, despite great gains in certain fields such as medicine and law, gifted girls are less likely than gifted boys to achieve their full potential. Although gifted girls outperform gifted boys in terms of grades, gifted boys achieve higher scores on college admissions examinations. Compared to gifted boys, gifted girls are underprepared academically, having taken fewer mathematics and science courses and less challenging courses in social studies. As a result, they have fewer options for college majors and career goals (Kerr, 1985). Bright women apparently let go of career aspirations gradually, first through underpreparation and later through decisions that may put the needs of husbands and families before their own. Gifted women fall behind gifted men in salary, status, and promotions throughout their working lives.

In order to ensure that gifted girls have the greatest possible chance to fulfill their potential, career planning should emphasize rigorous academic preparation, particularly in mathematics and science; maintaining high career aspirations; and identifying both internal and external barriers to the achievement of career goals. Many suggestions for career planning for gifted girls are provided in Smart Girls, Gifted Women (Kerr, 1985).

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1997-98 PRODUCTS: GIFTED AND TALENTED

Teaching Young Gifted Children in the Regular Classroom: Identifying, Nurturing, and Challenging Ages 4-9

Joan Smutny, Sally Walker, and Elizabeth Meckstroth

This realistic and creative resource helps teachers identify young children who are gifted and tailor the learning environment to meet their needs. Separate sections offer specific suggestions for enriching math, science, language arts, and social studies curricula. Other sections cover meeting the needs of children from diverse populations, working with parents, and understanding children's emotional and social needs. Over two dozen reproducible handout masters and an extensive reference section help make this an excellent selection.

#S5230. 1997. 240pp. ISBN 1-57542-017-1. $29.95

Raising Your Child to Be Gifted: Successful Parents Speak!

James Reed Campbell

A remarkable book of specific, concrete strategies for nurturing giftedness distilled from interviews with more than 10,000 parents of gifted children in the United States, Greece, Japan, and the Republic of China. These easy-to-follow "recipes" show how to support and encourage children's best efforts and create academic excellence.

#S5149. 1995. 208pp. ISBN 1-57129-0000-1. Price $21, CEC Members $19

Crossover Children: A Sourcebook for Helping Children Who Are Gifted and Learning Disabled, Second Edition

Marlene Bireley

A rich resource that provides specific strategies to help children who are gifted and learning disabled and/or ADD control impulsivity, increase attention, enhance memory, improve social skills, and develop a positive self-concept. It also provides recommendations for academic interventions and enrichment activities.

#P5121. 1995. 94 pp. ISBN 0-86586-264-8. Price $28, CEC Members $19.60

Teaching Gifted Kids in the Regular Classroom

Susan Winebrenner

Use proven techniques and strategies to ensure that gifted students in your class are highly motivated, challenged, productive, and have positive learning experiences. Includes lots of reproducible handouts and student profiles.

#S392. 1992. 168 pp. ISBN 0-915793-47-4. Price $21.95

College Planning for Gifted Students, Second Edition

Sandra L. Berger

Use this step-by-step guide for discovering the right fit between student and college. Helps students examine personal goals, values, and learning styles. Describes how to figure out what a college is really like. Revised edition includes information on the new SAT and current news concerning financial assistance.

#P330R. 1994. 150 pp. ISBN 0-86586-246-X. CEC/ERIC
Price $24, CEC Members $16.80

Planning Effective Curriculum for Gifted Learners

Joyce VanTassel-Baska

Be prepared to design and implement a curriculum that works for your gifted students. Checklists, forms, differentiated activities, and dozens of practical ideas for planning curriculum K-12 make this book an essential part of planning content-based programs.

#S382. 1992. 385 pp. ISBN 0-89108-218-2. Price $34.95

Schools for Talent Development: A Practical Plan for Total School Improvement

Joseph S. Renzulli

A practical guide to high-end learning for all students. A step-by-step guide filled with practical, constructive suggestions for improving the way we teach children and youth. Organized around the principles of the School-wide Enrichment Model, this resource guides you through the organizational and strategic options for teaching in a learner-centered environment. Describes the "total talent portfolio," curriculum modification techniques, and enrichment learning strategies. Includes author and subject indexes and extensive bibliography and resource section.

#S5100. 1994. 379 pp. ISBN 0-936386-65-7.
Price $44, CEC Members $39.95

VIDEO PACKAGES

Gifted Education and School Reform: Making the Connection

The National Training Program for Gifted Education

Video. A fast-paced video that lays out the basic tensions between leaders of gifted education and school reform. Both groups show concern for serving the diverse needs of students who are gifted but struggle with the ways those needs should be met.

(#M5089, includes book and 30-min video.) 1995.
Price $99, CEC Members $69.30

Toward a Common Agenda: Linking Gifted Education and School Reform

Book. A 38-page report that summarizes the outcomes of a symposium that took place May 20-21, 1994. The report examines the fundamental tensions as well as the shared commitments of reformers and gifted advocates.

(#P5088 book only, ISBN 0-86586-260-5). 1995.
Price $15, CEC Members $10.50

In Balance: Gifted Education and Middle Schools

The National Training Program for Gifted Education

Video. The focus is on the specific tensions between advocates for the "middle-school" philosophy and advocates for gifted programs. In this video considerable footage is devoted to hearing the voices of the students themselves. We learn that students want both integrated and separate learning experiences at different times and for different purposes.

(#M5148, includes book and 30-min closed-captioned video.) 1996.
Price $99, CEC Members $69.30

Gifted Education and Middle Schools

Book packaged with the video, includes reprints of articles from the *Journal for the Education of the Gifted*, the *Middle School Journal*, and other resources.

(#P5148 book only, ISBN 0-86586-280-x). 1996.
Price $15, CEC Members $10.50

Curriculum for Nurturing Giftedness in Young Children

The National Training Program for Gifted Education

Video. Provides a revealing look at young children who are gifted or talented in various ways and suggests ways that their talents can be nurtured at school and at home. This video provides ideas for classroom units and accommodates some easy-to-use methods that have worked in different settings.

(#M5156, includes book and 30-min closed-captioned video.)
1996. Price $99, CEC Members $69.30

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VIDEO PACKAGES (continued)

Nurturing Giftedness in Young Children

Book by C. June Maker and Margaret A. King is about how to create classrooms that are humane, nurturing, and exciting. The heart of the book centers around 20 practices such as the importance of knowing the children; accepting diversity; and providing a learner-centered, teacher-facilitated curriculum.

(#P5156 book only, ISBN 0-86586-282-6). 1996.
Price $15, CEC Members $10.50

CEC Searchable Databases on Diskette
Sandra L. Berger, Editor

• •

Programs and Practices in Gifted Education: Projects Funded by the Jacob K. Javits Gifted and Talented Students Education Act of 1988

Detailed information on what has been accomplished by 46 projects serving disadvantaged gifted children.
#R636D (DOS); #R636M (Macintosh) 1992
Price $18, CEC Members **$12.60**

• •

Gifted Students and Educational Reform

ERIC bibliographic citations include subtopics such as grouping practices, middle school, and outcomes-based education.
~~#C5037D (DOS)~~ out of print; #C5037M (Macintosh) 1994
Price $18, CEC Members **$12.60**

• •

Gifted Education and the Middle School

Includes almost 500 ERIC citations related to gifted students and middle schools. Ideal for researchers or advocates who want to use research studies to document a case.
#C5102D (DOS); #C5102M (Macintosh) 1995
Price $18, CEC Members **$12.60**

• •

Curriculum for Nurturing Giftedness in Young Gifted Children

This searchable database on diskette includes almost 300 ERIC citations related to curriculum for young gifted children. Ideal for researchers or advocates who want to use research studies to document their ideas.
~~#C5125D (DOS)~~ out of print; #C5125M (Macintosh) 1995
Price $18, CEC Members **$12.60**

• •

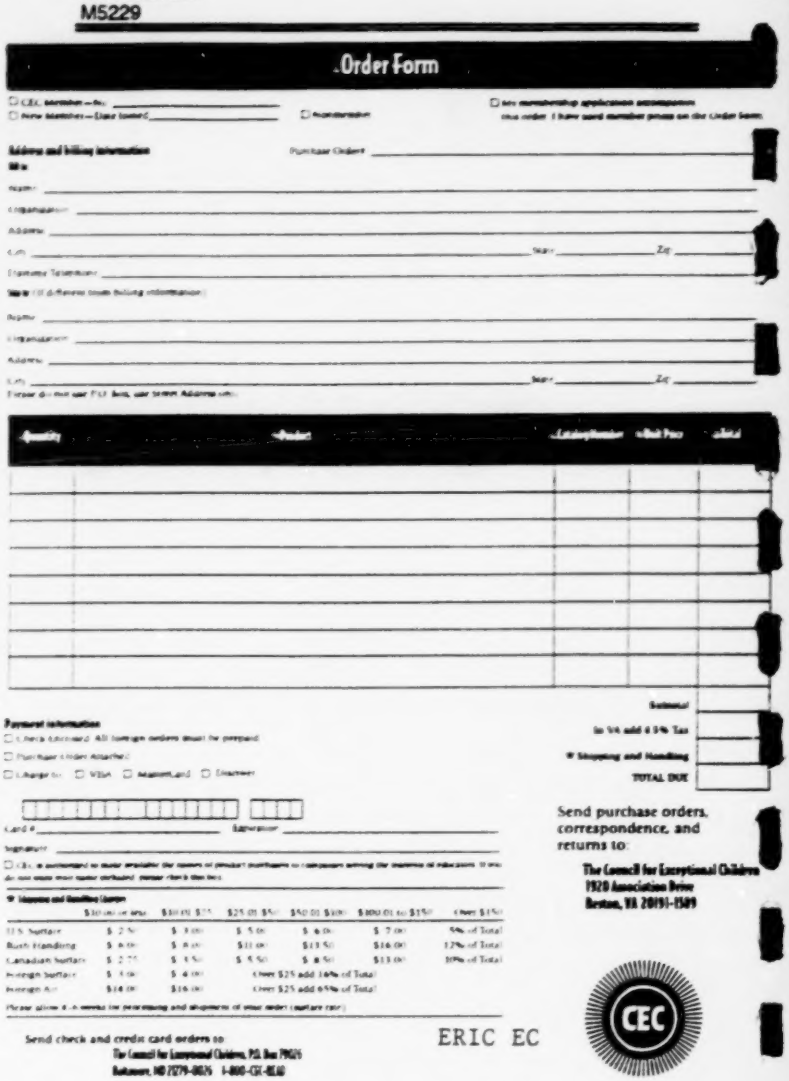
To receive a copy of our latest catalog, call 1-888-CEC-SPED or send an e-mail message to cecpubs@cec.sped.org.

New Video Kit! Available October 1

Developing Outstanding Talents

Transform your classroom to a learning environment where hidden talents can emerge and shine. This video shows how two Javits-funded projects developed ways to identify outstanding abilities in children and provide them with the challenging educational experiences that will support and encourage them to develop those talents. A user guide provides detailed information on the two projects' strategies for assessing and nurturing strengths, using community resources, and managing the multicultural classroom. Other topics include curriculum and instruction, family outreach, the learning environment, and mentor programs. Separate sections are designed for use by policymakers, education professionals, and parents.

Eight stand-alone pamphlets also provide a subject-based quick reference for those who want information on a particular aspect of the talent development process. An attractive classroom poster provides a ready reminder for teachers and encouragement for students.
M5229


Order Form
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1920 Association Drive
Reston, VA 20191-1589
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ERIC EC

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- About ERIC EC
- About the ERIC Information System
- Searching the Databases
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The ERIC Clearinghouse on Disabilities and Gifted Education (ERIC EC) is part of the National Library of Education (NLE), Office of Educational Research and Improvement (OERI), U.S. Department of Education. It is operated by The Council for Exceptional Children (CEC). ERIC EC provides information on the education of individuals with disabilities as well as those who are gifted. We also provide access to information from a variety of sources outside our clearinghouse, the ERIC System, and the U.S. Department of Education. Our inclusion of information is not an endorsement of viewpoints, reports, products, or services.

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ERIC EC WEB SITE AT A GLANCE

About ERIC EC
Describes who we are and what we do

About the ERIC Information System
Overview of ERIC services and links to the 16 ERIC clearinghouses, 10 adjuncts, and support components

Searching the Databases
Links to the ERIC database; also links to CEC's proprietary database ECER (Exceptional Child Education Resources) on SilverPlatter

Submitting Documents to ERIC
Includes procedures, criteria for accepting documents, reproduction release forms

The ERIC/OSEP Special Project
Overview of work done for U.S. Dept. of Ed., Office of Special Education Programs. Includes *1996 Directory of Current Research Projects*

"Learning to Read Reading to Learn"
Overview of project
Principles for learning to read
Tips for teachers
Tips for parents
Names of reading researchers

Recent Additions to This Web Site
Quick snapshot of our latest additions; check here first

Digests, Fact Sheets, Minibibs
Links to digests (brief overviews of current topics) from ERIC EC, fact sheets, and minibibs (reading lists or resource lists on specific topics)

Frequently Asked Questions (FAQs)
Answers to 60 questions we are asked most often on learning disabilities, giftedness, inclusion, ADD/ADHD, medical disorders; includes citations from the ERIC database and Internet resources

Links to Other Information Resources
Links to Internet sites that have quality, research-based information or other material of interest in the areas of disability and/or giftedness

Listservs
Lots of electronic discussion groups organized by topical area (e.g., ADD, learning disabilities, giftedness, blindness, deafness, assistive technology)

AskERIC Question-Answering Service
Got a question about education? Send an e-mail message to AskERIC, operated by the ERIC Clearinghouse on Information and Technology. Information specialists from the appropriate ERIC clearinghouse will respond.

National Parent Information Network (NPIN)
Operated by the ERIC Clearinghouse on Elementary and Early Childhood Education, this site focuses on child development, care, and education, and the parenting of children from birth through early adolescence

2/28/97

Getting Online

What you'll need to get on to the Internet:

☛ A personal computer	PC or Macintosh
☛ A modem*	Either built-in (internal) or external; the faster the better
☛ Communications software*	A program that connects your computer and the computer you are trying to reach, via the modem
☛ An Internet account with a network provider*	This could be through your university, your public library, your school (if you are a teacher), or a commercial service provider such as America Online, CompuServe, or Prodigy

* Many newer computers come equipped with these items already installed.

Getting to ERIC EC's Web Site

What you'll need to access the Web (or the graphics-oriented portion of the Internet):

☛ An Internet account	See above
☛ A Web browser	For example, Netscape or Internet Explorer, that will let you see full graphics on the World Wide Web

Point the Uniform Resource Locator (URL) to:

http://www.cec.sped.org/ericec.htm

Digests, Fact Sheets, Minibibs

Digests . ERIC digests are short reports (1,500 to 2,000 words) that provide a basic overview, plus pertinent references, on topics of interest to the broad educational community. ERIC digests are in the public domain and may be freely duplicated.

Fact Sheets

- Financial Aid for (Postsecondary) Students with Disabilities NEW!
- Grants/Funding Information
- International/National Associations for Gifted Education
- Planning Accessible Conferences and Meetings
- Publishers of Special Education Material
- Special Education Statistics
- State Directors of Programs for the Gifted
- State Associations for the Gifted

Minibibs. Minibibliographies (or "minibibs") contain annotated readings on a particular topic. In some cases, the "Readings" may be combined with "Resources" on a specific topic.

- Readings and Resources on Attention Deficit Disorder (ADD)/Attention Deficit Hyperactivity Disorders (ADHD)
- Readings and Resources on Autism
- Readings About Children and Youth with Learning Disabilities (LD)
- Readings and Resources About Reading Instruction for Young Children with Learning Disabilities
- Readings on the Use of Technology for Individuals with Disabilities
- Resources on the Use of Technology for Individuals with Disabilities
- Including Students with Disabilities
- Gifted Students and Educational Reform Selected Readings
- Social Emotional Needs of Gifted Children: Selected Readings for Educators
- Social Emotional Needs of Gifted Children: Selected Readings for Parents
- Gifted Education and Middle Schools Selected Readings

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URL: http://www.cec.sped.org/ericec.htm

Frequently Asked Questions (FAQs)

Listed below are some topics on which our clearinghouse frequently receives questions. Responses include citations from the ERIC database as well as other relevant information, where appropriate.

Attention Deficit Disorders (ADD)

- Attention deficit disorders (ADD)
- Attention deficit disorders (ADD) and legal issues
- Attention deficit disorders (ADD) and ritalin
- Adult attention deficit disorders (ADD)
- Gifted students and attention deficit disorders
- Readings and Resources on ADD

Gifted Education

- Identifying gifted students
- Classroom program placement and gifted students
- Teaching gifted ESL students
- Assessing and nurturing the talents of young gifted children
- Enrichment activities for gifted students
- Funding for gifted education
- Gifted children with disabilities: children with disabilities and giftedness
- Gifted students and attention deficit disorders
- Gifted students and learning disabilities
- Including "gifted and talented" students in the regular education classroom (grouping practices)
- Models or "best practices" for teaching the gifted
- Developing a program for the gifted in a school system
- The value of gifted programs
- Longitudinal studies on gifted students
- Legal issues and gifted education
- Racial and ethnic minorities and gifted education

Inclusion/Mainstreaming

- Mainstreaming inclusion
- IDEA and inclusion
- Including "gifted and talented" students in the regular education classroom (grouping practices)
- Costs of special education vs regular education classes
- Equitable grading procedures
- Long-term effects of inclusive programs
- Pros and cons of inclusion

Learning/Developmental Disabilities

- Adults with learning disabilities
- Assistive technology
- Autism
- Readings and Resources on Autism

- Aphasia
- Apraxia
- Asperger's Disorder
- Central auditory processing disorders (CAPD)
- Dysgraphia
- Dyslexia
- Dyspraxia
- Educating children with multiple disabilities
- Foreign language requirements in high school and students with learning disabilities
- Gifted students and learning disabilities
- Home schooling
- Learning disabilities
- Managing disruptive students in the classroom (behavior disorders)
- Pervasive development disorders (PDD)
- School discipline
- School-to-work transition
- Sensory integration

Medical/Physical

- Blindness/visual impairments
- Cerebral palsy
- Chromosome abnormalities: genetic disorders
- Deafness: hearing impairments
- Down syndrome
- Epilepsy
- Fetal alcohol syndrome
- Mental retardation
- Muscular dystrophy
- Tourette syndrome

Mental Health

- Bipolar disorder
- Oppositional defiant disorder

Other

- Financial aid for (postsecondary) students with disabilities NEW!
- Special education statistics

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Last updated: May 6, 1997
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Products from the ERIC Clearinghouse on Disabilities and Gifted Education

ERIC DIGESTS: $1 EACH

ERIC digests are short reports (1,500 - 2,000 words) that provide a basic overview, with references, on topics of interest to the broad educational community. ERIC digests are in the public domain and may be duplicated. ERIC EC digests are available free of charge on the Internet at the following URL:http://www.cec.sped.org/digests/

Items in italics are not available online.

CULTURAL DIVERSITY

E561 Addressing Diversity in Special Education (1997)
E496 Bilingual Special Education (1991)
E497 Communicating with Culturally Diverse Parents of Exceptional Children (1991)
E499 Effective Instruction for Language Minority Children with Mild Disabilities (1991)
E500 Empowering Culturally and Linguistically Diverse Students with Learning Problems (1991)
E501 Functional Language Instruction for Linguistically Different Students with Moderate to Severe Disabilities (1991)
E520 Identifying and Serving Recent Immigrant Children Who Are Gifted (1993)
E498 Multicultural Education for Exceptional Children (1991)
E544 Underachievement Among Gifted Minority Students: Problems and Promises (1997)

EARLY CHILDHOOD

E519 Effective Practices for Preparing Young Children with Disabilities for School (1993)
E505 Substance Exposed Infants and Children (1991)

GIFTED

E522 ADHD and Children Who Are Gifted (1993)
E525 Blending Gifted Education and School Reform (1994)
E492 Career Planning for Gifted and Talented Youth (1990)
E513 Challenging Gifted Students in the Regular Classroom (1992)
E538 Cluster Grouping of Gifted Students: How to Provide Full-Time Services on a Part-Time Budget (1996)
E490 College Planning for Gifted and Talented Youth (1990)
E485 Developing Leadership in Gifted Youth (1990)
E514 Developing Learner Outcomes for Gifted Students (1992)
E502 Developing Programs for Students of High Ability (1991)
E510 Differentiating Curriculum for Gifted Students (1991)
E536 Differentiating Instruction for Advanced Learners in the Mixed-Ability Middle School Classroom (1995)
E491 Discovering Interests and Talents through Summer Experiences (1990)
E482 Discovering Mathematical Talent (1990)
E484 Fostering Academic Creativity in Gifted Students (1990)
E493 Fostering the Post Secondary Aspirations of Gifted Urban Minority Students (1990)
E479 Gifted but Learning Disabled: A Puzzling Paradox (1990)
E535 Gifted Learners and the Middle School: Problem or Promise (1995)
E476 Giftedness and the Gifted: What's It All About? (1990)
E481 Guiding the Gifted Reader (1990)
E489 Helping Adolescents Adjust to Giftedness (1990)
E488 Helping Gifted Students with Stress (1990)
E477 Helping Your Highly Gifted Child (1990)
E515 How Parents Can Support Gifted Children (1992)
E520 Identifying and Serving Recent Immigrant Children Who Are Gifted (1993)
E541 Know Your Legal Rights in Gifted Education (1997)
E464 Meeting the Needs of Able Learners through Flexible Pacing (1989)
E480 Meeting the Needs of Gifted and Talented Minority Language Students (1990)
E486 Mentor Relationships and Gifted Learners (1990)
E487 Nurturing Giftedness in Young Children (1990)
E527 Nurturing Social/Emotional Development of Gifted Students (1994)
E483 Personal Computers Help Gifted Students Work Smart (1990)
E524 Providing Curriculum Alternatives to Motivate Gifted Students (1994)
E542 Public Relations: A Necessary Tool for Advocacy in Gifted Education (1997)
E526 Should Gifted Students be Grade-Advanced? (1992)
E494 Supporting Gifted Education Through Advocacy (1990)
E544 Underachievement Among Gifted Minority Students: Problems and Promises (1997)
E478 Underachieving Gifted Students (1990)

INSTRUCTION AND MANAGEMENT

E506 Alcohol and Other Drug Use by Adolescents With Disabilities (1991)
E529 Assistive Technology For Students With Mild Disabilities (1994)
E366 Being at Ease with Handicapped Children (1990)
E728 Can Social Skills for Employment be Taught? Using Cognitive-Behavioral Procedures with Adolescents with Mild Disabilities (1990)
E530 Connecting Performance Assessment to Instruction (1995)
E545 Coping with Stress in the Special Education Classroom (1997)
E531 Creating Meaningful Performance Assessments (1995)
E504 Developing Effective Programs for Special Education Students Who Are Homeless (1991)
E456 Educating Exceptional Children (1989)
E406 Fostering Peer Acceptance of Handicapped Students (1990)
E507 HIV/AIDS Prevention Education for Exceptional Youth (1991)
E521 Including Students with Disabilities in General Education Classrooms (1993)
E468 Integrating Students with Severe Disabilities (1990)
E509 Juvenile Corrections and the Exceptional Student (1991)
E469 Life Skills Mastery for Students with Special Needs (1990)
E408 Managing Inappropriate Behavior in the Classroom (1990)
E532 National and State Perspectives on Performance Assessment (1995)
E730 Peer Tutoring: When Working Together is Better Than Working Alone (1991)
E733 Performance Assessment (1993)
E735 Planning Accessible Conferences and Meetings (1994)
E508 Suicide and the Exceptional Child (1991)
E722 The Effects of Student-Teacher Ratios on Student Performance in Special Education (1988)
E533 Using Performance Assessment in Outcomes-Based Accountability Systems (1995)

LEARNING DISABILITIES/ATTENTION DEFICIT DISORDER

E539 Academic Interventions for Children with Dyslexia Who Have Phonological Core Deficits (1995)
E522 ADHD and Children Who Are Gifted (1993)
E540 Beginning Reading and Phonological Awareness for Students with Learning Disabilities (1996)
E479 Gifted But Learning Disabled: A Puzzling Paradox (1990)
E516 Learning Disabilities (1992)
E517 Learning Disabilities: Glossary of Some Important Terms (1992)
E512 Providing an Appropriate Education to Children with Attention Deficit Disorder (1992)

OTHER DISABILITIES

E518 Behavioral Disorders: Focus On Change (1993)
E470 Children with Communication Disorders (1990)
E420 Disabilities: An Overview (1990)
E457 Down Syndrome (1988)
E548 Educating Children Who Are Deaf or Hard of Hearing: Additional Learning Problems (1997)
E549 Educating Children Who Are Deaf or Hard of Hearing: An Overview (1997)
E550 Educating Children Who Are Deaf or Hard of Hearing: Assessment (1997)
E551 Educating Children Who Are Deaf or Hard of Hearing: Auditory-Oral (1997)
E552 Educating Children Who Are Deaf or Hard of Hearing: Auditory-Verbal (1997)
E553 Educating Children Who Are Deaf or Hard of Hearing: Bilingual-Bicultural Education (1997)
E554 Educating Children Who Are Deaf or Hard of Hearing: Cochlear Implants (1997)
E555 Educating Children Who Are Deaf or Hard of Hearing: Cued Speech (1997)
E556 Educating Children Who Are Deaf or Hard of Hearing: English-Based Sign Systems (1997)
E557 Educating Children Who Are Deaf or Hard of Hearing: Inclusion (1997)
E558 Educating Children Who Are Deaf or Hard of Hearing: Residential Life, ASL, and Deaf Culture (1997)
E559 Educating Children Who Are Deaf or Hard of Hearing: Total Communication (1997)
E454 Emotional Disturbances (1988)
E528 Mental Retardation (1994)
E311 Severe Disabilities (1990)
E459 Students with Physical Disabilities and Health Impairments (1989)
E511 Visual Impairments (1992)
E534 Vocational Support Strategies for Students with Emotional Disorders (1995)

POLICIES AND PROCEDURES

E471 Extended School Year (1990)
E537 IDEA/504/ADA (1995)
E460 Rights and Responsibilities of Parents of Children with Handicaps (1989)
E731 Section 504 of The Rehabilitation Act of 1973 and The Americans with Disabilities Act of 1990 (1992)

SEARCHING HELP

E523 ERIC Basics: How to Use ERIC to Search Your Special Education Topic
E523.1 ERIC Basics: Search Planning Worksheet

MINI-BIBLIOGRAPHIES: $1 EACH

EB1 Selected Resources: Culturally Affirming Services and Strategies, 1993-1996 (1997)
EB2 Selected Resources: Identification and Assessment of Culturally and Linguistically Diverse Gifted Students, 1993-1996 (1997)
EB3 Selected Resources: Identification and Assessment of Culturally and Linguistically Diverse Students with Disabilities, 1993-1996 (1997)
EB4 Selected Resources: Preparing Teachers to Serve Culturally and Linguistically Diverse Populations, 1993-1996 (1997)
EB5 Selected Readings for Parents and Educators: Social Emotional Needs of Gifted Children (1993)
EB6 Selected Readings for Parents and Educators of Gifted Children (E495.1) (1994)
EB7 Selected Readings: Gifted Education and Middle Schools (1994)
EB8 Selected Readings: Gifted Students and Educational Reform (1993)
EB9 Selected Readings: Gifted Students with Learning Disabilities (1996)
EB10 Readings About Children and Youth with Learning Disabilities (LD) (E465R) (1994)
EB11 Readings and Resources on Attention Deficit Disorders (ADD)/Attention Deficit Hyperactivity Disorders (ADHD) (1995)
EB12 Readings and Resources on Reading Instruction for Young Children with Learning Disabilities (1995)
EB13 Readings and Resources on Autism (1995)
EB14 Including Students with Disabilities: Minibibliography (1993)
EB15 Performance Assessment (1993)
EB16 Readings on the Use of Technology for Individuals with Disabilities (1996)
EB17 Resources on the Use of Technology for Individuals with Disabilities (1996)

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1920 Association Drive
Reston, VA 20191-1589

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The Council for Exceptional Children operates the ERIC Clearinghouse on Disabilities and Gifted Education under a contract with the Office of Educational Research and Improvement and the Office of Special Education Programs, U.S. Department of Education.

Updated 12/97

Focusing on the Future

A Career and Academic Planning Experience for High-Ability Students in Grades 6-12 and Their Parents

What do you want to be when you "grow up"?

What are the options?

Where are the opportunities?

What types of people pursue different types of careers?

What is a typical work day *really* like?

Which areas interest you?

Which careers are compatible with your personality traits and characteristics?

How can you reach your career goals?

Should you attend college? Which one?

Which courses should you take?

How will you pay for college?

Don't leave your life up to chance!
Choose your own direction!
Attend **Focusing on the Future**
on **Saturday, January 23, 1999,**
and become an informed decision maker!

Registration Deadline: Friday, December 11, 1998

Center for Gifted Education
The College of William and Mary
P.O. Box 8795
Williamsburg, VA 23187-8795
Phone: (757) 221-2362 Fax: (757) 221-2184
E-mail: cfge@facstaff.wm.edu
Web Page: http://www.wm.edu/education/gifted.html

Purpose/Description of Focusing on the Future

For the third year, the **Center for Gifted Education** is offering an all-day career and academic planning experience for high-ability students in grades 6-12 and their parents. The purpose of this program is twofold:

- to expose high-ability learners to career opportunities related to the arts, humanities, mathematics, and sciences; and
- to inform parents of considerations and guidelines for effective career and academic planning.

The conference will be held on **Saturday, January 23, 1999**, on the campus of the **College of William & Mary**. Please register as soon as possible. Only 200 students and their parents can be accommodated. The registration fee for this program is $40 per person (includes a box lunch). Students must be accompanied by a parent, guardian, or group chaperone. The **deadline for registration is Friday, December 11, 1998**. Workshop presenters will be faculty at the College of William & Mary and other practicing professionals.

Student Workshops: Students will have the opportunity to learn about three career areas. In each of the workshops, students will be exposed to 1) an interactive discussion and/or engaging activity that pertains to the particular field, 2) information about work habits and "habits of mind" (e.g., precision and objectivity in math, and skepticism and curiosity in science) that lead to successful careers, 3) information about a variety of career opportunities in a particular field, and 4) steps that students will take in preparing for a specific career.

Parent Workshops: Parents will have the opportunity to attend three workshops. A range of topics will be offered, from academic and college planning to social and emotional needs of gifted learners.

Program Overview

9:00 - 9:15 a.m.	Welcome
9:15 - 9:30 a.m.	Overview of the Day
9:30 - 10:15 a.m.	Panel Discussion
10:15 - 10:30 a.m.	Break
10:30 - 11:30 a.m.	1st Session (Choice of one student and one parent workshop)
11:30 a.m. - 12:45 p.m.	Lunch (Box lunch provided) and Student Panel Discussion (Attendance optional)
12:45 - 1:45 p.m.	2nd Session (Choice of one student and one parent workshop)
1:45 - 2:00 p.m.	Break
2:00 - 3:00 p.m.	3rd Session (Choice of one student and one parent workshop)
3:15 - 4:15 p.m.	Tour of William & Mary (Preregistration required)

FOCUSING ON THE FUTURE REGISTRATION

W&M Center for Gifted Education

Center for Gifted Education
The College of William and Mary

Office Use Only
Rec'd: _____
Check #: _____
Amnt: _____

Student's Last Name: | Student's First Name: | M.I.:

Date of Birth: (mm/dd/yy) | Gender: (M/F) | Grade in School:

Home Address: (Only complete this if it is different from Address Label on back, or if Address Label is missing.)
Number/Street, etc.: | City:

State: | ZIP: - | Home Phone:

Parent(s)/ Guardian(s)/ Last Name | First Name | M.I.:

Name of Accompanying Adult **(for name tag--no unaccompanied students accepted)**

Box Lunch Choices: (1 choice/person):
Turkey (#): ☐ Vegetarian (#): ☐

Do you want to go on a tour of the campus? (3:15 - 4:15 pm)
Please Circle: Y / N Number going on tour: ☐

First Session Workshop Choices (10:30 - 11:30 am) Indicate 1, 2, 3 preference for **student** AND **parent**

Arts Strand		Humanities/Social Sciences Strand		Science/Math/Technology Workshop Strand		Parent Strand	
Dance	student	Business	student	Environmental Science	student	Planning for College	parent
Film-making	student	Anthropolgy	student	Physics	student	Financial Planning for Parents of Middle School Students	parent
Art	student	Education	student	Biology	student	Social/Emotional Needs of Gifted Students	parent

Second Session Workshop Choices (12:45 - 1:45 pm) Indicate 1, 2, 3 preference for **student** AND **parent**

Vocal Music	student	Psychiatry	student	Marine Science	student	Encouraging Girls in Math/Science	parent
Theatre	student	Government	student	Chemistry	student	Considerations in Career Planning	parent
English	student	History	student	Engineering	student	Financial Planning for Parents of High School Students	parent

Third Session Workshop Choices (2:00 - 3:00 pm) Indicate 1, 2, 3 preference for **student** AND **parent**

Instrumental Music	student	Law	student	Geology	student	Planning for College	parent
Architecture	student	International Studies	student	Mathematics	student	Academic Planning	parent
Mass Communications	student	Medicine	student	Computer Science	student	So Your Child Wants to Attend William and Mary	parent

I understand that, unless I specifically request otherwise, photos of the events of the day, which may include parent/guardian/chaperone and/or student photos, may be used in print and electronic publications produced by the Center for Gifted Education.

Parent Signature: _____

Registration Fee - $40 per person:
2 x $40 = $80 (minimum);
3 x $40 = $120; 4 x $40 = $160.
Amount Enclosed: _____

Registration and Fees (checks payable to The College of William and Mary) **MUST** be post-marked on or before **Friday, December 11, 1998**.

MAIL TO:
Center for Gifted Education
The College of William and Mary
P.O. Box 8795
Williamsburg VA 23187-8795

Center for Gifted Education
The College of William and Mary
P O Box 8795
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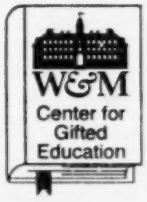
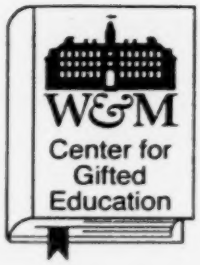
FOCUSING ON THE FUTURE

1999

Center for Gifted Education
The College of William and Mary



A Learning Community for Talent Development



Focusing on the Future: Career and Academic Planning

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Center for Gifted Education
School of Education
The College of William & Mary

National Association for Gifted Children
Annual Conference
Louisville, Kentucky
November 13, 1998
7:45 a.m. - 8:45 a.m.

Center for Gifted Education
P.O. Box 8795
Williamsburg, Virginia 23187-8795

Phone: (757) 221-2362Fax: (757) 221-2184
Web Site: www.wm.edu/education/gifted.html
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Planning Schedule

May

27 – Secure facilities

June

17 – Compile list of resources/phone #'s

July

15 – Assess budget and database needs
29 – Create planning calendar (Build in extra time!)

August

5 – Set up a notebook with sections to organize all information and samples
12 – Determine presenters to invite
14 – Confirm facilities
18 – Prepare invitation letters and reply forms
25 – Prepare mailing labels
27 – Mail invitation letters/reply forms to possible presenters

September

1 – Build a budget and monitor costs on an on-going basis
11 – Deadline for responses from presenters
14 – Start follow-up calls to presenters who have not responded; solicit others
22 – Draft brochure
24 – Continue follow-up calls
29 – Choose mailing lists (to determine # to print)

October

1 – Continue follow-up calls
2 – Brochure to printer
6 – Prepare labels
7 – Continue follow-up calls
8 – Mail brochure
13 – Prepare confirmation letters to presenters
15 – Arrange campus tours
16 – Contact catering
19 – Continue follow-up calls
21 – Mail confirmation letters and equipment needs form to presenters
27 – Continue follow-up calls and confirmations
29 – Send info to press contacts

November

2 – Input registrations
4 – Start developing program (for day of event)
5 – Continue follow-up calls
6 – Deadline for equipment needs form
10 – Continue to input registrations
12 – Continue follow-up calls
16 – Contact possible facilitators to assist (give introductions, etc.)
17 – Assess equipment needs and assign rooms (follow-up on nonresponders)
18 – Work on program
20 – Contact catering with more details
23 – Continue to input registrations

December

1 – Send room assignments and equipment needs to facilities manager
2 – Arrange bus shuttle from distant parking lot
3 – Memo to police to open rooms on Saturday
4 – Follow-up on getting facilitators
7 – Prepare confirmation letters to attendees
8 – Run copies of maps and directions
9 – Continue to input registrations
10 – Prepare final confirmation letter to presenters (w/room #'s, students, etc.)
11 – Deadline for registration
15 – Make sure there are enough folders and materials for name tags, etc.
16 – Prepare labels; Input all registrations
18 – Mail confirmation letters and maps to attendees (if possible)

January

4 – Mail confirmation letters and maps to attendees (if not already done)
5 – Prepare labels
6 – Mail final confirmation letter to presenters
11 – Make labels for folders; Prepare evaluation forms
12 – Make copies of evaluation forms; Finalized program to printer
13 – Make signs for doors of each room and for entrance; Order donut holes
14 – Prepare list of student/parent sessions and room assignments for registration; copy
15 – Prepare brief, opening introduction speech; Make facilitator list and staff assignmts.
18 – Confirm all set-up with facilities; Confirm catering; Send final info to facilitators
19 – Make name tags (print and put in plastic holders); Label folders
20 – Stuff folders (to be handed out at registration)
21 – Bring materials to conference site; Confirm donuts; Confirm police opening rooms
23 – Day of Career Conference; Pick up donuts and bring with trays
25 – Write and send thank you notes to all presenters and facilitators
26 – Follow-up meeting to debrief and make suggestions for improvements
27 – Start to tally and analyze evaluations (to be completed in Feb/March, with individual results sent to presenters)

Analysis of Workshop Evaluations, 1998

Student Evaluations

Similar to those attending in 1997, students participating in the 1998 Focusing on the Future: A Career and Academic Planning Experience for High-Ability Students in Grades 6-12 and Their Parents showed a high level of receptivity to the content and presentations of the general session, their specific areas of interest, and the panel discussion (see attached chart). They were especially enthusiastic about those sessions that were interactive and that tied into the students' particular areas of interest. For example, students noted that the History session provided an "incredible integration of information and student feedback," and that the Theater session was "very interactive" and "helped me understand what they have to go through." Similarly, the Engineering session was deemed "informative and fun," and the Law session "really explored the entire expanse of legal careers" and "real cases came up, which made you think."

Suggestions for improvement focused on separating the sessions according to middle and high school age groups; providing longer time for lunch and more time to transition from session to session; providing more interactive, hands-on activities during the sessions; providing more choices and longer sessions; shortening the panel discussion, adding a session on medicine; and including a panel of college students.

Parent Evaluations

Parents participating in the 1998 Focusing on the Future workshops also exhibited a high level of receptivity to the sessions they attended (see attached chart). They found the program well-organized and appropriate, with useful content and effective presentations. Sessions on the Social and Emotional Needs of the Gifted, Planning for College,

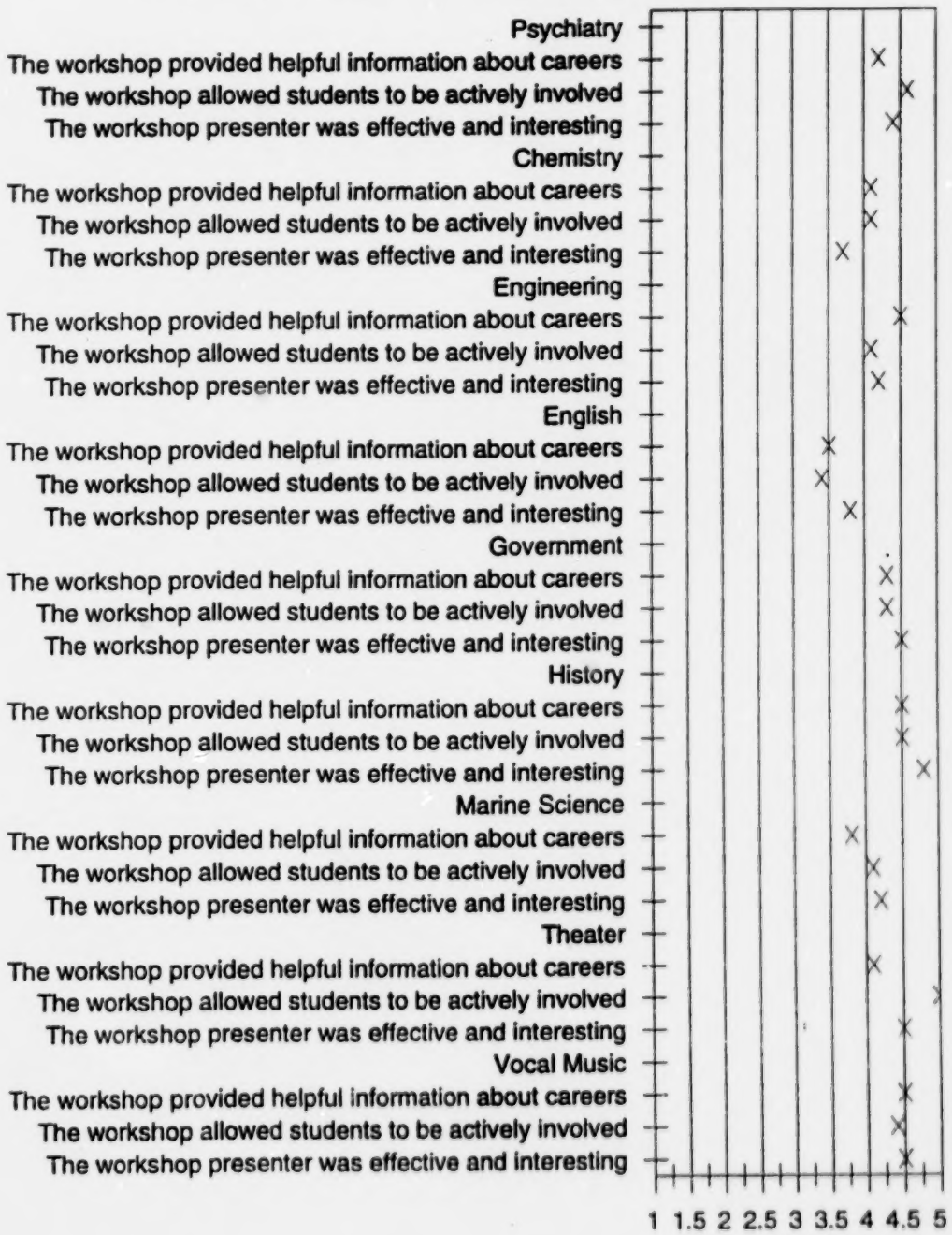
Encouraging Girls in Math and Science, and Considering William & Mary were rated especially high. Parents commented, "The dynamism and enthusiasm of the initial panel members keyed the day," and that "More folks need to have this opportunity," which was "inspirational and informative." They noted that the Critical Thinking session "gave ideas of how to point their children in the right direction," and that College Planning provided "great info, was realistic, and spoke right to me and my children." Parents commented that Academic Planning for College gave "concrete steps to help my child plan for college," and that the Social-Emotional Needs presentation "was very down-to-earth and informative, " providing useful information so that "I understood my children's needs better and how I can help them."

Suggestions were somewhat similar to those of students in some areas. For instance, parents mentioned the need to provide more time for lunch, possibly keeping it in one building to facilitate sharing. They reiterated that the students needed more interactive sessions. Parents also noted the need for more question-and-answer time during their own sessions, and the need for handouts that matched the overheads being discussed. One parent suggested a forum for parents to share information based on their own experiences and also the inclusion of a panel of college students to gain their input. Again, the concern regarding the separation of middle and high school ages arose, and a session on gifted ADD/ADHD children was suggested. Logistically, many commented on the need for more advanced, detailed information on session content, confirmation of attendance, and directions.

Student Evaluations, 1998

Focusing on the Future

Rating Scale: 1 = not at all; 3 = moderately; 5 = to a great extent



FOCUSING ON THE FUTURE
A Career and Academic Planning Experience
for High-Ability Students in Grades 6-12 and Their Parents

Student Program Evaluation

The program was well organized.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The facilities were appropriate for the day's activities.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Panel Discussion

The panel discussion was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

First Session (10:30 - 11:30)

Title of first session attended _____

The workshop provided helpful information about careers.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop allowed students to be actively involved.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

(OVER, PLEASE)

Second Session (12:45 - 1:45)

Title of second session attended _____

The workshop provided helpful information about careers.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop allowed students to be actively involved.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Third Session (2:00 - 3:00)

Title of third session attended _____

The workshop provided helpful information about careers.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop allowed students to be actively involved.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Overall Program

Which presentation was most helpful and why?

Which presentation was least helpful and why?

What changes in the workshop day would you recommend for improvement?

Please provide any additional comments to help with future planning.

FOCUSING ON THE FUTURE
A Career and Academic Planning Experience
for High-Ability Students in Grades 6-12 and Their Parents

Parent Program Evaluation

The program was well organized.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The facilities were appropriate for the day's activities.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Panel Discussion
The panel discussion was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

First Session (10:30 - 11:30)
Title of first session attended _____

The workshop provided helpful information about considerations and guidelines for effective academic planning and other issues pertaining to gifted students.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Second Session (12:45 - 1:45
Title of second session attended _____

The workshop provided helpful information about considerations and guidelines for effective academic planning and other issues pertaining to gifted students.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

(OVER, PLEASE)

Third Session (2:00 - 3:00)

Title of second session attended _____

The workshop provided helpful information about considerations and guidelines for effective academic planning and other issues pertaining to gifted students.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

The workshop presenter was effective and interesting.

To a Great Extent		*Moderately*		*Not At All*
5	*4*	*3*	*2*	*1*

Overall Program

Which presentation was most helpful and why?

Which presentation was least helpful and why?

What changes in the workshop day would you recommend for improvement?

Please provide any additional comments to help with future planning.

References

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